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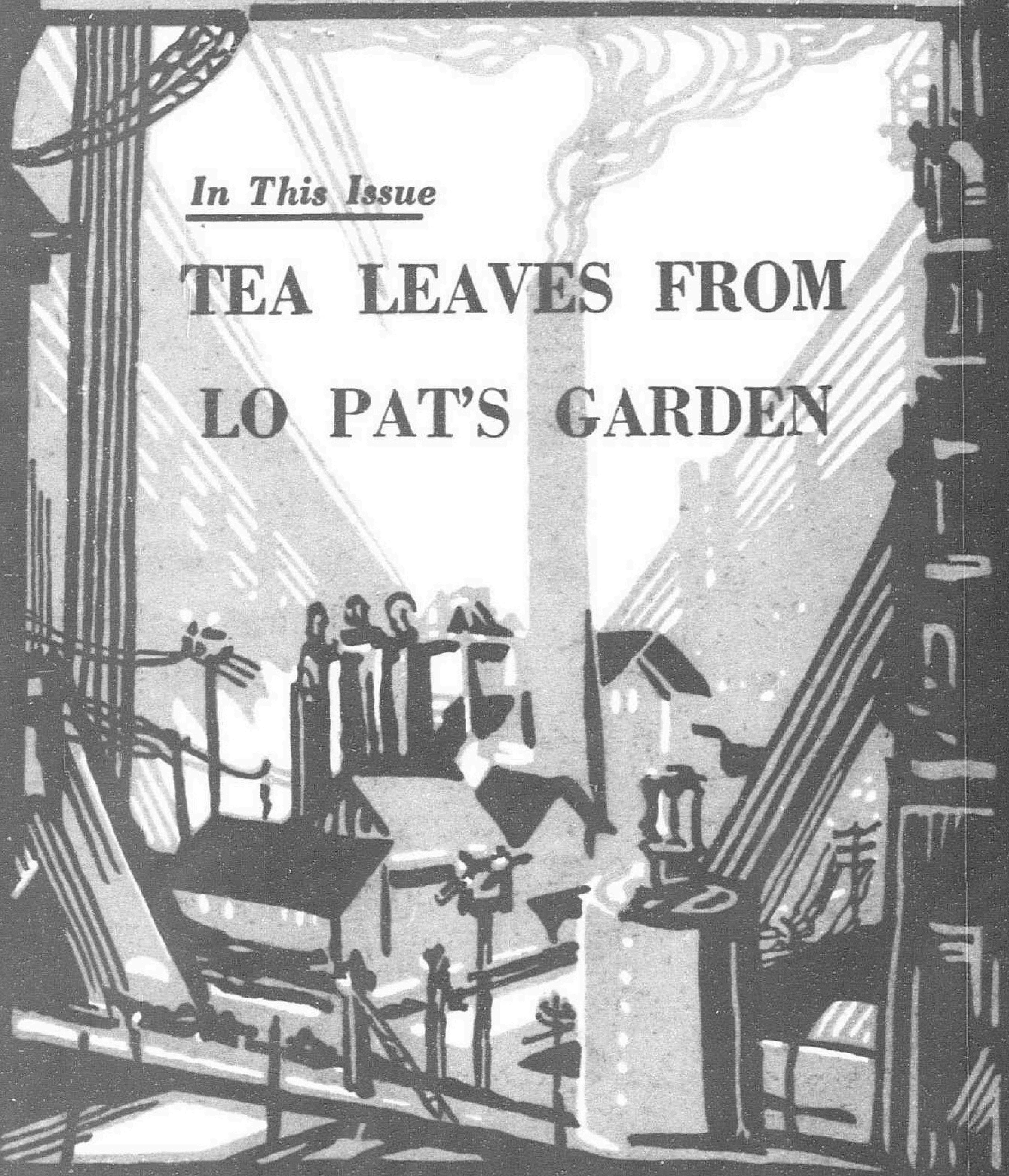

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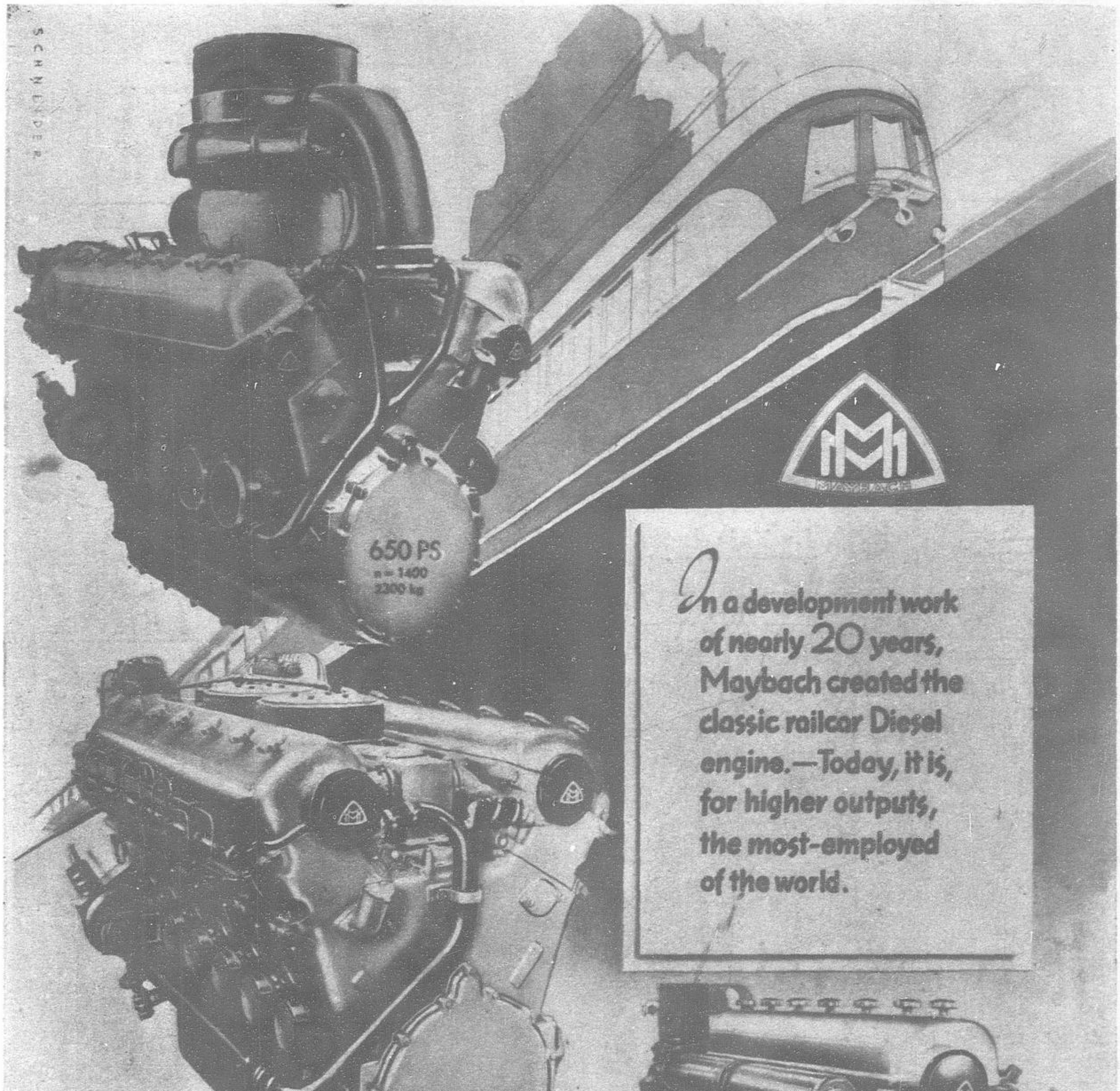

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FAR EASTERN CROSS-CURRENTS

Under the glare of floodlights and before a battery of cameras, Mr. Wang Ching-wei and General Nobuyuki Abe on November 30 signed the long-awaited treaty of "basic relations" between the Nanking Government and Japan.

The signing took place at the Ceremonial Hall of the Nanking Government. Later, a triple declaration of mutual recognition between Japan, China and Manchoukuo was signed.

At the time of the signature, a 21-gun salute boomed across the city from the Japanese cruiser *Idzumo,* flagship of the Japanese fleet in central China, and other Japanese warships, and "doves of peace" were released.

Mr. Wang and General Abe entered the ceremonial hall together. Other Ministers present were Mr. Chow Fu-hai, Finance Minister, Mr. Lin Pai-chen, Minister of Publicity, Mr. Chu Min-yi, Foreign Minister, and Mr. Mei Sze-ping, Minister of Commerce and Industry.

The signing of the treaty comes after eight months of negotiation. These have dragged on, affected by all the complicated off stage manoeuvres of the Far East.

It is just under two years since Mr. Wang Ching-wei fled from Chungking and started on the road which has led him to the post of President in the Nanking Government. In the latter part of December, 1938, he secretly left China's wartime capital and went to Hanoi, where he remained for some time before he moved to Shanghai. In Shanghai he lived in his fortress-residence until going to Nanking early this year.

Mr. Wang Ching-wei contended that the famous statement by Prince Konoye, the present Premier of Japan, made on December 13, 1938, promised favorable peace terms. Mr. Wang again advocated the realization of the proposals in the Konoye statement in January this year, at the Tsingtao Conference, held to discuss the organization of the new Central Government.

General Nobuyuki Abe came to China in March as the Japanese special envoy to China. He moved between Nanking and Peiping, but spent most of his time in Nanking, having a series of conferences with Mr. Wang Ching-wei and his leading supporters, especially Mr. Chow Fu-hai, now Finance Minister in Nanking, who had represented Mr. Wang in discussions held earlier in Tokyo.

The Central Political Conference was convened by Mr. Wang in Nanking during the latter part of March this year. After the conference, on March 30, Mr. Wang announced "the return of the Chinese National Government to Nanking," aiming at the "restoration of National Peace through the Peace Movement the "establishment of a Constitutional Government in China," national reconstruction and anti-Communism.

Treaty Provisions

Relinquishment by Japan of her concessions in China, as well as her extraterritorial rights, and also the withdrawal of such Japanese forces as are not necessary for the maintenance of peace and order, within a definite period of time, are specifically provided for in the Sino-Japanese Treaty which was signed by General Nobuyuki Abe, Japanese Envoy Extraordinary and Ambassador plenipotentiary, and President Wang Ching-wei of the National Government of China.

Four separate documents were signed by General Abe and President Wang, namely the Treaty, the Annexed Protocol, the Agreed Terms of Understanding between the Plenipotentiaries of Japan and China concerning the Annexed Protocol, and a Joint Declaration by the Governments of Japan, China and Manchoukuo.

One of the outstanding features of the treaty was the fact that no claim for a war indemnity was made by Japan. Although provisions were made for compensation by China for damages to "rights and interests suffered by Japanese subjects in China on account of the China Affair since its outbreak."

Full stipulation also are made in the Treaty for the elimination of "communistic elements and organizations" within the territories of China and Japan, and also for co-operation between the two countries for "defense against communistic activities."

Regarding defense measures against Communism, it also is provided in the Treaty that Japan shall station "required forces in specified areas of Mengchiang and of North China for necessary duration in accordance with the terms to be agreed upon separately." It also is specified that Japanese naval units may be stationed in specific areas within the territory of China.

Article 3 of the Annexed Protocol states. "When general peace is restored between the two countries and the state of war ceases to exist, the Japanese forces shall commence evacuation with the exception of those which are stationed in accordance with the Treaty concerning the Basic Relations between Japan and China signed to-day and the existing agreements between the two countries, and shall complete it within two years with the firm establishment of peace and order, and the Government of the Republic of China shall guarantee the firm establishment of peace and order during this period."

In the agreed terms of understanding, provisions are made for settlement of various commercial and financial problems.

By virtue of the Joint Declaration, China, Japan and Manchoukuo mutually recognize each other and "respect mutually their sovereignty and territories."

Text of Treaty

Following is the text of the treaty singed at Nanking concerning the basic relations between the National Government at Nanking and Japan.

Being desirous that the two countries should respect their inherent characteristics and closely co-operate with each other under their common ideal of establishing a new order in East Asia on an ethical basis, establishing a permanent peace in East Asia and with this as a nucleus contributing toward the peace of the world in general the two countries have agreed as follows:

Article 1.—The Governments of the two countries shall, in order to maintain permanently good neighborly and amicable relations between the two countries, mutually respect their sovereignty and territories and at the same time take mutually helpful and friendly measures, political, economic, cultural and otherwise.

The Governments of the two countries agree to eliminate, prohibit in the future, such measures and causes as are destructive of amity between the two countries in politics, diplomacy, education, propaganda, trade and commerce, and other spheres.

Article 2.—The Governments of the two countries shall closely co-operate for cultural harmony, creation and development.

Article 3.—The Governments of the two countries agree to engage in joint defense against all destructive operations of communistic nature that jeopardize the peace and welfare of the two countries.

The Governments of the two countries shall, in order to accomplish the purpose mentioned in the preceding paragraph, deliminate communistic elements and organizations in their respective territories, and at the same time co-operate closely concerning information and propaganda with reference to the defense against communistic activities.

Japan shall, in order to carry out the defense against communistic activities through collaboration of the two countries, station required forces in specified areas of Mengchiang and of North China for necessary duration, in accordance with the terms to be agreed upon separately.

Article 4.—The Governments of the two countries undertake to co-operate closely for the maintenance of common peace and order until the Japanese forces sent to China complete their evacuation in accordance with the terms as provided for separately.

The areas for stationing Japanese forces for the period requiring the maintenance of common peace and order and other matters pertaining thereto shall be determined as agreed separately between the two countries.

Article 5.—The Government of the Republic of China shall recognize that Japan may, in accordance with previous practises or in order to preserve the common interests of the two countries, station for a required duration its naval units and vessels in specified areas within the territory of the Republic of China, in accordance with the terms to be agreed upon separately between the two countries.

Article 6.—The Governments of the two countries shall effect close economic co-operation between the two countries in conformance with the spirit of complementing each other and ministering to each other's needs, as well as in accordance with the principles of equality and reciprocity.

With reference to specific resources in North China and Mengchiang, especially mineral resources required for national defense, the Government of the Republic of China undertake that they shall be developed through the close co-operation of the two countries. With reference to the development of specific resources in other areas which are required for national defense, the Government of China shall afford necessary facilities to Japan and Japanese subjects.

The Governments of the two countries shall take all the necessary measures to promote trade in general and to facilitate and rationalize the demand and supply of goods between the two countries. The Governments of the two countries shall extend specially close co-operation with respect to the promotion of trade and commerce in the lower basin of the Yangtze River and the rationalization of the demand and supply of goods between Japan on the one hand and North China and Mengchiang on the other.

The Government of Japan shall, with respect to the rehabilitation and development of industries, finance, transportation and communication in China, extend necessary assistance and co-operation to China through consultation between the two countries.

Article 7.—According to the development of the new relations between Japan and China under the present Treaty, the Government of Japan shall abolish extraterritorial rights possessed by Japan in China and render to the latter its concessions; and the Government of China shall open its territorial rights possessed by Japan in China and render to the latter its concessions; and the Government of China shall open its territory for domicile and business of Japanese subjects.

Article 8.—The Governments of the two countries shall conclude separate agreements regarding specific items which are necessary to accomplish the object of the present Treaty.

Article 9.—The present Treaty shall come into effect from the date of its signature.

In witness whereof the undersigned, duly authorized by their respective Governments, have signed the present Treaty and affixed thereto their seals.

Done in duplicate, in the Japanese and Chinese languages, at Nanking on the thirtieth day of November of the seventh year of Syowa, corresponding to the thirtieth day of November of the twenty-ninth year of the Republic of China. Signed:

Nobuyuki Abe (Ambassador Extraordinary and Plenipotentiary of the Empire of Japan). Wang Chao-ming (President of the Executive Yuan of the Republic of China).

Treaty Protocol

In proceeding this day to the signature of the Treaty concerning the Basic Relations between Japan and China, the Plenipotentiaries of the two countries have agreed as follows:

Article 1.—The Government of the Republic of China, understanding that, during the period in which Japan continues the warlike operations it is at present carrying on in the territory of China, there exists a special state of affairs attendant upon such warlike operations, and that Japan must take such measures as are required for the attainment of the object of such operations, shall accordingly take the necessary measures.

Even during the continuation of the said warlike operations, the special state of affairs referred to in the preceding paragraph shall, in so far as there is no obstacle to the attainment of the object of the operations, be adjusted in accordance with the changing circumstances and in conformity with the Treaty and its annexed documents.

Article 2.—While the affairs previously administered by the Provisional Government of the Republic of China, the Reformed Government of the Republic of China and others have been taken over and temporarily maintained as they are by the Government of the Republic of China, those which require adjustment but are not yet adjusted, shall be adjusted in conformity with the purpose of the Treaty and its annexed documents through consultation between the two countries, as promptly as circumstances may permit.

Article 3.—When general peace is restored between the two countries and the state of war ceases to exist, the Japanese forces shall commence evacuation with the exception of those which are stationed in accordance with the Treaty concerning the Basic Relations between Japan and China signed to-day and the existing agreements between the two countries, and shall complete it within two years with the firm establishment of peace and order; and the Government of the Republic of China shall guarantee the firm establishment of peace and order during this period.

Article 4.—The Government of the Republic of China shall compensate the damages to rights and interests suffered by Japanese subjects in China on account of the China Affair since its outbreak.

The Government of Japan shall, with respect to the relief of the Chinese rendered destitute by the China affair, co-operate with the Government of the Republic of China.

Article 5.—The present Protocol shall come into effect simultaneously with the Treaty.

In witness whereof the Plenipotentiaries of the two countries have signed this Protocol and have affixed thereto their seals.

Done in duplicate, in the Japanese and Chinese languages, at Nanking on the thirtieth day of November of the fifteenth year of Syowa, corresponding to the thirtieth day of November of the twenty-ninth year of the Republic of China.

Supplementary Agreement

The following understanding was reached between the plenipotentiaries of the two countries in connection with the stipulations of Articles 1 and 2 of the Annexed Protocol of the Treaty.

(1) With regard to those various organs for collecting taxes in China which are at present in a special condition owing to military necessity, an adjustment shall be made promptly in accordance with the spirit of respecting the financial independence of China.

(2) With regard to those industrial, mining and commercial establishments under governmental or private management which are at present controlled by Japanese forces, the necessary measures shall be taken for their prompt transfer to Chinese management in a rational manner, with the exception of those which are of enemy character or under special circumstances of unavoidable character including military necessity.

(3) In case any Sino-Japanese joint enterprise requires modification in the evaluation of original assets, measures for their rectification shall be taken in accordance with the terms to be agreed upon separately through consultation between the two countries.

(4) The Government of the Republic of China shall, in case they find it necessary to institute control on foreign trade, effect such control autonomously. They may not, however, infringe upon the principle of Sino-Japanese economic co-operation mentioned in Article 6 of the Treaty; and they shall consult with Japan with regard to such control during the continuation of the China Affair.

(5) With regard to matters pertaining to transportation and communication in China which require adjustment, they shall be adjusted, as promptly as circumstances may permit, in accordance with the terms to be agreed upon separately through consultation between the two countries.

Done in duplicate, in the Japanese and Chinese languages, at Nanking on the thirtieth day of November of the seventh year of Syowa, corresponding to the thirtieth day of November of the twenty-ninth year of the Republic of China.

Joint Declaration

The Imperial Government of Japan, the Imperial Government of Manchoukuo, and the National Government of the Republic of China, being desirous that the three countries should respect one another's inherent characteristics and closely co-operate with one another as good neighbors under their common ideal of establishing a new order in East Asia on an ethical basis, constituting thereby the mainstay of a permanent peace in East Asia, and with this as a nucleus toward the peace of the world in general declare as follows:

(1) Japan, Manchoukuo and China will respect mutually their sovereignty and territories.

(2) Japan, Manchoukuo and China will bring about general co-operation on a reciprocal basis among the three countries, especially a good neighborly friendship, common defense against communistic activities and economic co-operation, and for that purpose will take all the necessary measures in every direction.

(3) Japan, Manchoukuo and China will promptly conclude agreements in accordance with the present Declaration.

Reaction at Washington

President Roosevelt announced that the United States has loaned China U.S.$50,000,000 and that a total credit of U.S.$100,000,000 is contemplated. The announcement came shortly after word was received here of the signing in Nanking of the treaty between Japan and the Wang Ching-wei régime.

The loan will be retired through deliveries of strategic materials, said Mr. Jesse H. Jones, Secretary of Commerce and head of the U.S. Export-Import Bank which guaranteed the loan to the Central Bank of China.

"Discussions between American and Chinese authorities in the field of financial co-operation have progressed," President Roosevelt said in making formal announcement of the loan.

"There is contemplated a U.S.$100,000,000 credit to the Chinese Government. A credit for general purposes of U.S.$50,000,000 already has been decided upon by this government," the President said.

"Arrangements for early allocation of the balance, namely U.S.$50,000,000 for the purposes of monetary protection and management as between American and Chinese currencies are now in the process of consultation with the appropriate congressional committees," said the President.

President Roosevelt, in a formal statement, said the Government is considering early allocation of the additional U.S.$50,000,000 credit to be used for currency stabilization in China.

The White House released a letter from Mr. Jones stating that the U.S. Metal Reserve Company is arranging to purchase U.S.$60,000,000 worth of tin, wolframite and antimony from the China Natural Resources Commission.

The new loan makes a total of U.S.$245,000,000 of actual or potential aid the United States has offered China since 1932. All but U.S.$16,000,000 was loaned in the last two years.

Prior to this announcement bringing to U.S.$160,000,000 actual or possible aid offered recently, there were loans of U.S.$85,000,000 and China has repaid about U.S.$9,000,000.

Diplomatic and international circles commented widely upon the apparent significance of the loan announcement at this time.

The general impression was that the United States sought to counteract any injurious effect of Japan's recognition of the Wang Ching-wei régime.

Observers recalled that the United States consistently, usually took some step highly favorable to Chungking whenever Japan succeeded in a move which might be interpreted as injurious to Chungking.

When Hankow fell the United States extended the first large credits. When the Burma road was closed the United States placed an embargo on certain materials Japan needed.

Recently, about the time Japan joined the Axis, the United States announced new credits would be extended to China.

The current loan comes with other factors also favorable to China. Including, firstly, strengthened U.S. military forces in the Pacific; secondly, defense consultations between Britain, the U.S. and Australia regarding Singapore and other Pacific areas; and thirdly, strengthened British naval position in the Mediterranean which Mr. Winston Churchill, the British Prime Minister, said would influence British power in distant parts of the globe.

The fact that the largest portion of the new aid, namely U.S.$60,000,000, was not a loan but an arrangement to import that much worth of Chinese goods, was regarded as a demonstration that the United States intends to keep open commercial contacts with China and to rely upon certain Chinese supplies for improvement of the U.S. defense position.

Tin, wolframite and antimony deliveries will be made "During the next few years at prices commensurate with market conditions as the metals are delivered," Mr. Jones's letter to President Roosevelt said.

American Press Views

Announcement of a new United States loan to China was given frontpage prominence in American Sunday papers, which were unanimous in interpreting the move as clearly calculated to answer Japan's signature of a treaty with the Nanking Government.

The loan decision apparently had been reached in advance, but papers expressed the belief that the Administration timed the announcement to coincide with the conclusion of the treaty, thereby heightening its effect as an aid to Chungking moral.

The *Washington Post* significantly called the step President Roosevelt's first major international move since his re-election. The paper said that the action is expected not only to strengthen Chungking's resistance, but to encourage Soviet aid to the Chiang Kai-shek government.

The *Washington Post* further commented that the move has reinforced the belief that President Roosevelt is merely awaiting an opportune moment to render further assistance to Britain, while the *Washington Star* called the step part of the Administration's considered policy of extending all aid short of war to those nations fighting the totalitarian bloc.

Although neither the *Post* nor the *Star* commented editorially on the move, the *Baltimore Sun* opined that the move which "looks like it was carefully calculated and timed as an answer to Japan showing that now, more than ever, we stand with and behind the independent Chungking régime in its fight against Nippon."

London Opinion

Sunday newspapers in England either belittled or ignored the signing of the Sino-Japanese Treaty, between Japan and the government at Nanking defining the basic relations between the two countries, which was so conspicuously reported in the United States, giving prominence instead to the American loan to China.

All newspapers were unanimous in pointing out that President Roosevelt's announcement of a loan of U.S.$100,000,000 was the United States' answer to Japan.

Correspondents also gave prominence to a recent meeting between Lord Halifax, Foreign Secretary, and Mr. Quo Tai-chi, Chinese Ambassador to London.

It was stated that the discussion held dealt with ways and means whereby the sending of supplies to China could be speeded up by improved Anglo-American co-operation.

Papers conjectured extensively on the outcome of this co-operation in the Far East stressing that the move may have important repercussions on the whole war situation.

Italy Decided

Italy has decided to recognize the National Government of China under the presidency of Mr. Wang Ching-wei and assurances to that effect have been made repeatedly by Foreign Minister Count Galeazzo Ciano to the outgoing Japanese Ambassador, Mr. Eiji Amau, well-informed quarters here revealed.

Rome will dispatch an ambassador to Nanking shortly, it was predicted. Such a step, it was added, would be taken following Italian consultation with Japan and Germany. The Reich, observers here said, is expected to take a similar step.

Japanese Press is Bitter

The Sino-Japanese war has ceased to involve only Japan and China and now includes the United States, the newspaper *Kokumin Shimbun* said as it joined other Japanese organs in editorial criticism of the U.S. policy in relation to the Far East.

"Our people must take note that the Sino-Japanese conflict already has ceased to be one between Japan and China and that it has now developed into part of an intensive fight between the old order faction and the new order camp," the *Kokumin* declared.

"The United States in the name of peace. Democracy and aid to Great Britain actually is struggling for the maintenance of the old order to stop the rise of Japan, Germany and Italy," the *Kokumin* said. "In other words, the United States is trying to disturb the peace of East Asia and keep it in a state of turmoil as long as possible in order to exhaust Japan's power to cope with the situation of much greater importance yet to come."

The *Kokumin* declared that the appointment of Admiral Kichisaburo Nomura as Ambassador to Washington would not improve matters between the two nations and said that "our people should know that the relations between the two countries are now so seriously strained that they don't allow for any wishful thinking."

Describing the purported Anglo-American joint defense agreement in the southwestern Pacific, the *Miyako Shimbun* said that "it's now a case of either you swallow or get swallowed.

"The triple alliance between Japan, Germany and Italy on which Japan staked everything is certainly a wartime measure which should not permit Britain and the United States to encroach upon the greater East Asia sphere which is Japan's living space," the *Miyako* warned.

"The construction of the new order in East Asia demands the elimination of all anti-Japanese elements and calls for an iron mind to strike the third powers behind Chungking," the *Miyako* declared. "It is high time that Japan declared its belligerent rights against those belligerent countries in order to speed up construction of Asia for the Asiatics.

"It is only this herculean determination on the part of Japan that will make possible the realization of the new order in East Asia," the *Miyako* said.

The announcement of the new American loan to China generally was the target of the Tokyo newspapers. They agreed that it was significant that President Roosevelt has announced the loan on the same day that Japan formally recognized the Nanking Government.

The *Yomiuri Shimbun* said that the American loan and the announcement of Lord Halifax, British Foreign Secretary, promising new British credits to Chungking indicated that "Anglo-American economic pressure against Japan is being intensified.

"It is now up to Japan to seal all supply routes to Chungking, to take necessary measures to frustrate the stabilization of the *Fapi* and to take all conceivable steps to stamp out all attempts to block construction of a Greater East Asia," the *Yomiuri* said.

Trends at Washington

America's rapidly stiffening Far Eastern policy lately has appeared to be moving rapidly from one of financial aid to China into the field of supplying Generalissimo Chiang Kai-shek's armies with vital war planes and other war supplies.

This development followed unanimous approval of the Administration's Far Eastern policy by a joint Senate and House of Representatives committee which investigated the Administration's project for loaning China U.S.$100,000,000.

Following the committee's action, the Secretary of State, Mr. Cordell Hull, indicated that the basis of American policy in the Far East is this: the United States will extend all possible material and financial aid to China because the Chungking Government is resisting the forces of aggression and by continuing hostilities against Japan on a large scale is preventing Japan from carrying out her designs on so-called "Greater East Asia."

United States officials said that there was a "good chance" that a way would be found whereby some American army planes would be made available to the Chungking Government. While these planes might not be considered first line planes by the U.S. Army, it was said, they would be new enough models to combat successfully the best planes Japan can put in the air.

American officials are known to have discussed the question of material aid to China in recent Washington conferences with members of a special Chinese air mission.

Unconfirmed rumors said the planes of the two Army air corps recently sent to the Philippines might be sold to China.

This transaction, it was said, would be accomplished by the return of the planes to their manufacturers by the U.S. Army. The manufacturers then would be free to sell the planes to the Chinese Government.

Observers recalled that the Secretary of War, Col. Henry Stimson, told the press when these air squadrons were ordered to the Philippines that they were "combat units" of the latest type, and "not training planes."

Sounds Warning

A bold warning that "Japan may be forced to take up arms for the purpose of self-protection" in view of the United States' continued offensive acts, was contained in an editorial appearing to-day in the *Miyako Shimbun.*

The newspaper declared that "the United States may claim that they haven't the slightest intention of going to war with Japan. However, they were always making one bluff after another with the idea that such bluffs may upset Japan's plans in the Far East.

"The United States should realize the futility fo such actions," continued the editorial, "but she is still continuing these bluffs by announcing the grant of a new loan of U.S.$100,000,000 to China on the day the basic treaty between Japan and the National Government of China at Nanking was signed."

Describing the granting of the loan as a "virtual act of hostility toward Japan," the editorial concluded by stating that "Japan still does not desire war with the United States, but the latter should realize that she alone does not hold the key position to any future war with the two countries.

Unequal Treaties

Japan, having fully clarified her policies *vis-à-vis* the National Government of China at Nanking, by formally signing a treaty setting forth the basic relations between the two Powers, will now endeavor to assist the newly-born government to loose itself free of the fetters of unequal treaties which were foisted on the nation in its weaker days, observers at Nanking predicted.

Japan, they declared, will take the lead in restoring to normal the relations between Japan and China by voluntarily relinquishing her extraterritorial rights.

These circles added that Japan, so far as it does not prejudice strategical operations, will make positive efforts to bring back to normal the political, economic, cultural and other relations between Japan and China.

Japan's signal action in concluding a basic treaty with China, represents Japan's determination to recognize the National Government of China under the leadership of Mr. Wang Ching-wei, as the only legitimate government of China.

By signing the treaty with the National Government, Japan is determined to render that government every possible support in the political, economic, cultural, military and other fields, for the development and expansion of that government, and to protect its sovereignty.

Observers further remarked that the final signature of the Sino-Japanese treaty has crushed the hopes entertained by a portion of the adherents of Chungking for peace negotiations either directly between Japan and China, or through the mediation of third Powers.

Soviet Policy Unchanged

The Soviet Government has informed Japan that Russia's friendly policy toward China has not changed following Tokyo's recognition of the Nanking régime, the official news agency Tass, announced.

The Tass announcement emphasized that Japan had made a statement saying that its agreement with Nanking was in no way directed against the Soviet Union and that Japan desired to continue negotiations for a readjustment of Japanese-Soviet relations. The Soviet Government replied to this statement that its policy in regard to China "remains without change."

"According to a report from Tokyo on December 1, the Vice-Minister of Foreign Affairs of Japan, Mr. Chuichi Ohashi, made a statement to the Soviet Ambassador to Japan, M. Constantine Smetanin, in connection with the agreement concluded in Nanking between Japan and Mr. Wang Ching-wei," Tass said.

"In this statement, Mr. Ohashi pointed out that Article III of this agreement concerning the struggle against Communism is not directed in any way against the U.S.S.R. and that the said article follows from purely internal conditions and, independently of that, does not affect Japan's desire to adjust her relations with the U.S.S.R.

"On December 4, the Soviet Ambassador to Japan, M. Smetanin, called on Mr. Ohashi, and, on behalf of the Soviet Government, made the following statement:

"The Soviet Government notes the statement of the Japanese Government to the effect that Article III of the agreement concluded between Japan and Mr. Wang Ching-wei is not directed in any way against the U.S.S.R. and that it will not affect Japan's desire to adjust her relations with the U.S.S.R.

"On its part the Soviet Government deems it necessary to state that the policy of the Soviet Union with regard to China remains without change."

Matsuoka Tells Aims

The aims and policies of Japan in the Far East and in the new world order are explained in detail in an article written by Mr. Yosuke Matsuoka, Japanese Foreign Minister, in the October issue of the *Old Oregon*, alumni magazine of the University of Oregon.

"To put it simply," writes Mr. Matsuoka, "the cause to which Japan is now pledged is a new order, a new order of peace and life for all people of the Far East. To this cause, all our people are consecrating their efforts, even sacrificing what is closest to their hearts. This cause is now upheld as their national ideal."

"And what is this new order of peace and life?" asks Mr. Matsuoka, who replies: "We have just given it a definition: creation of 'a sphere of common existence for East Asia.' In other words, it will be a sphere in which each nation will enjoy the measure of welfare and justice to which it is entitled. And, together, these nations will form one community of life and interests.

"This, however, will not be possible unless and until conditions of all these countries are adjusted and rearranged in their common interest. If this new arrangement is to be sound in principle and permanent in character, this sphere of communal life should be peaceful, constructive and above all based on equity. The voices of people therein should be united in one prayer and their minds in affinity of interest.

"This sphere will be built for the Far Eastern countries, some of which have been subject to foreign oppression and others to ruthless or unfair exploitations. Still some others of them have lived in darkness, ignorance and poverty because they could not get either knowledge or justice at the hands of their foreign taskmasters.

"Such is the character of the new order program on which Japan has embarked. Japan has taken the leadership because no other nation is capable of doing so. People of the Far East have been wronged and have suffered, but they were unable to make their voices heard in the council chambers where might only commanded respect or audience....

"The East that has often been accused of being static is swinging into a new place. The East now demands what it has not done for ages: a chance to build its own house and a chance to live its own life under the new order born of its own mind.

"Our undertaking has often been criticized abroad. Because of this undertaking we have lost the sympathy of those people whose friendship and opinion we valued most. We have not been deaf to voices raised in our condemnation. But we remain steadfast to our purpose because we know its true quality. We feel we have been wrongfully charged and condemned before the bar of international opinion. But we remain faithful to the spirit that gives us strength and sustains us in these none too cheerful times and we feel that we may bide our time because we know counsels to which Time hath not been called. Time will not ratify."

"In the meantime the construction of a new East Asia must go on."

Nomura Tells Aims

The newly appointed Japanese Ambassador to the United States, Admiral Kichisaburo Momura, in an interview at Tokyo emphasized the delicate and difficult nature of the post he has accepted. He said he was well aware of the conflicting features of the fundamental policies of the United States and Japan respectively, and of the dangers for both peoples these conflicts represented. He expressed, however, the strong belief that between the United States and Japan there existed no difference which could not be solved by time and statecraft.

He protested that he, who had spent most of his adult life in active naval service and who had had little first-hand experienced of diplomacy, was ill-equipped for the task which will confront the Japanese Ambassador at Washington; he had accepted the appointment at last, he explained, only on the urgent insistence of the Foreign Minister, Mr. Yosuke Matsuoka.

Through the interview, Admiral Nomura displayed a keen sense of the responsibilities he has assumed.

"War between the United States and Japan would be a tragedy for civilization," he said. "No matter who won the 'first round,' the peace of the Pacific area would be menaced regularly thereafter as the loser sought revenge. We would have in this hitherto peaceful ocean the same sort of intermittent warfare that plagues Europe to-day."

The Ambassador was asked how he expected to explain the Tripartite Alliance with Germany and Italy as an instrument not aimed at the United States (Unfavorable American reaction to this pact has evoked official Japanese explanations that Japan's deal with the Axis was designed to preserve peace, not start a war, with the United States).

Admiral Nomura explained that he had not yet received his official instructions from the Foreign Minister, but personally he thought there was no danger of the Axis Treaty involving Japan in war with America.

In the first place, he said, the United States already is lending Britain the utmost aid of which she is capable and has promised to increase this aid as rapidly as possible. She has allied herself with the British war effort against the European Axis Powers without finding it necessary or advisable to become a belligerent, which it would be necessary for her to do to cause the Tripartite Treaty to be invoked against her.

In the second place, the Ambassador gave the interviewer the impression that although the Treaty provides that the signatories "undertake to assist one another with all political, economic and military means when one of the three contracting parties is attacked by a Power at present not involved in the European war or in the Sino-Japanese conflict," this does not necessarily bind Japan to go to war unconditionally. The Ambassador observed that the Greco-Italian War had started since the pact was signed, yet Japan had not found it necessary to send military aid to Italy.

The danger to peace in the Pacific which Ambassador Nomura stressed throughout the interview was the moral and material aid the United States Government was continuing to give the Chinese Government at Chungking. This, he declared, is deeply resented by the Japanese, who consider America the chief obstacle to a *Pax Japonica* extending throughout East Asia.

"Why," he asked, "should the United States interfere in a war so far from her own land and attempt to rob Japan of a victory so vital to her security and prosperity?

The interviewer, attempting to supply an authoritative answer to this question, cited official American statements regarding American interests in China and paraphrased numerous comments of American merchants on the China coast whose businesses are being ruined by conditions created there by Japan. The explanation (or at least a partial explanation) of American aid to China appears to be that Americans found that their interests in that country suffered much more as result of Japan's efforts to establish a "new order" than they did under the old order.

In reply to questions regarding the restrictions Japan has imposed on third party trade in the occupied areas of China, Admiral Nomura pointed out that Japan is fighting in China for her very existence and that an emergency so great justifies the measures the Army has taken to blockade certain areas, and to control prices, currency and trade. He said he hoped Americans would understand that the conditions which have imposed hardships on them the last three years were temporary and would be rectified as soon as the emergency passed.

He did not know, he said in reply to another question, exactly why the Lower Yangtze remained closed to all foreign shipping except Japanese, despite the assurance he himself as Foreign Minister gave the American Ambassador Mr. Joseph C. Grew, on December 18, 1939, that it would be reopened shortly. Ambassador Nomura said he presumed changed circumstances on the spot and elsewhere had necessitated a re-examination of the question and had led to the decision that the time was inopportune for re-opening the river.

Admiral Nomura's appointment, which was received with great satisfaction in American circles gave rise to a report that he had accepted the ambassadoship only after he and Foreign Minister Matsuoka had devised a new formula which they felt certain would alleviate the present severe strain on American-Japanese relations. If any such plan exists, however, the new Ambassador's diplomatic discretion was more than adequate to conceal it. Throughout the lengthy conversation, which took place in the "Foreign room" of the Nomura residence, the Ambassador gave the impression that he was undertaking his difficult mission unarmed with any new "secret weapon" of a diplomatic nature.

Admiral Nomura said he expected to sail for the United States late in December.

Comment at Washington

More vital changes in Japan's policies toward the United States than a mere change of Ambassadors were necessary for improved relations between those countries, Mr. Cordell Hull, the Secretary of State, implied in an interview.

The United States recognized only peaceful solutions to international problems as contrasted to actions of war which at present are rocking the world, Mr. Hull reiterated.

Mr. Hull's remarks were occasioned by references of newspaper correspondents to remarks of Admiral Kichisaburo Nomura, new Japanese Ambassador to Washington, who yesterday said he believed no problem at present existed between the United States and Japan which could not be solved by peaceful means.

The Secretary of State said that he and others, for several years had preached a program for conduct of international relations based on procedure of law and order.

Admiral Nomura was a man with a record for a wide grasp of international conditions and the questions they presented Mr. Hull said.

Some impartial observers interpreted Mr. Hull's words to mean that the Secretary of State recognized the high quality of the new Ambassador but at the same time wished to remind Japan that U.S. policy is grounded on certain principles which could not be changed by a mere shift of ambassadorial personnel.

Main points in the United States' program to which Mr. Hull alluded, officials said, are firstly, peace; secondly, law: thirdly, justice: fourthly, treaty observance; fifthly, non-intervention; sixthly, peaceful settlements of differences between nations; seventhly, fair dealing and eighthly, the fullest practicable measure of international co-operation.

Mr. Hull last publicly enumerated those principles just before President Roosevelt's re-election. He defined them as the basic foreign policy of the United States.

"Advocacy of these principles," Mr. Hull said, "won for us friendship of all nations except those which, vaguely describing themselves as 'Have Nots' and claiming a superior right to rule over other peoples, are to-day on the march with great armies and naval fleets to take by force what they say they need and want."

Prince Saionji Passes

Prince Kimmochi Saionji, 91-years-old, last of the Genro, died at his villa near Okitsu.

The aged Prince, although has condition had been critical for several days, retained consciousness almost until the hour of his death, it was reported. He had been seriously ill for several weeks.

Mr. Tsuneo Matsudaira, Minister of the Imperial Household and Baron Kumao Harada, the Prince's secretary, were with him at the hour of his death. Nearby the Prince also were his son, Hachiro, his grand-daughters, Aiko and Mrs. Motoko Oku, and Mr. Shojuro Nakagawa, a member of the House of Peers.

Perhaps no single person influenced the political life of modern Japan as much as Prince Kimmochi Saionji, last of the Elder Statesmen and known as the "Maker of Cabinets." Although retired from active public service since 1914, he perhaps was the most well-informed person in Japan regarding Japanese politics and was always consulted at the time of any national crisis.

The Genro seldom appeared in public in later years, but despite his advanced age, he wielded tremendous power, a tribute to his keen knowledge of inner Japanese political life. Living quietly at his seaside villa at Okitsu, Shizuoka Prefecture, Prince Saionji's name rarely appeared in the press except during a cabinet crisis.

As the last of the Elder Statesmen, it was he who made the final decisions as to who would be the head of the next government. Hence the appellative "Maker of Cabinets." Even in January 1940, Prince Saionji personally attended to state affairs resulting from the collapse of the cabinet headed by General Nobuyuki Abe.

Although his decisions at that time were never made public, and conveyed to the Emperor only, it is understood that the Genro personally selected Admiral Mitsumasa Yonai to succeed General Abe. Prince Saionji spent the whole of his long and active life in the service of his country and Emperor.

Born in 1849 in the ancient capital of Kyoto, he participated in the War of Restoration. Though only a youth of 19, young Saionji, then a Marquis, served as General commanding the Second Army. Later, as administrator, he served as Governor of Niigata Province.

Leaving the official service for the time being, the young Marquis, still only 21 years old, left Japan for France. After ten years abroad, during which time he studied law and politics at the University of Paris, he returned to his homeland to begin a brief career as a newspaperman.

Prince Saionji's venture into the news field was unsuccessful, his daily newspaper, the *Toyo Jiyu Shimbun*, being forced to discontinue after a short while owing to its radical views.

As a diplomatist, Prince Saionji served as Minister to Austria and later Minister to Germany. In 1893, at the age of 44, he was appointed Vice-President of the House of Peers. In the following year, he became Privy Councillor.

Serving successively as Minister of Education, Foreign Minister, and again as Minister of Education, Prince Saionji, at the turn of the century, was appointed to the coveted post of President of the Privy Council.

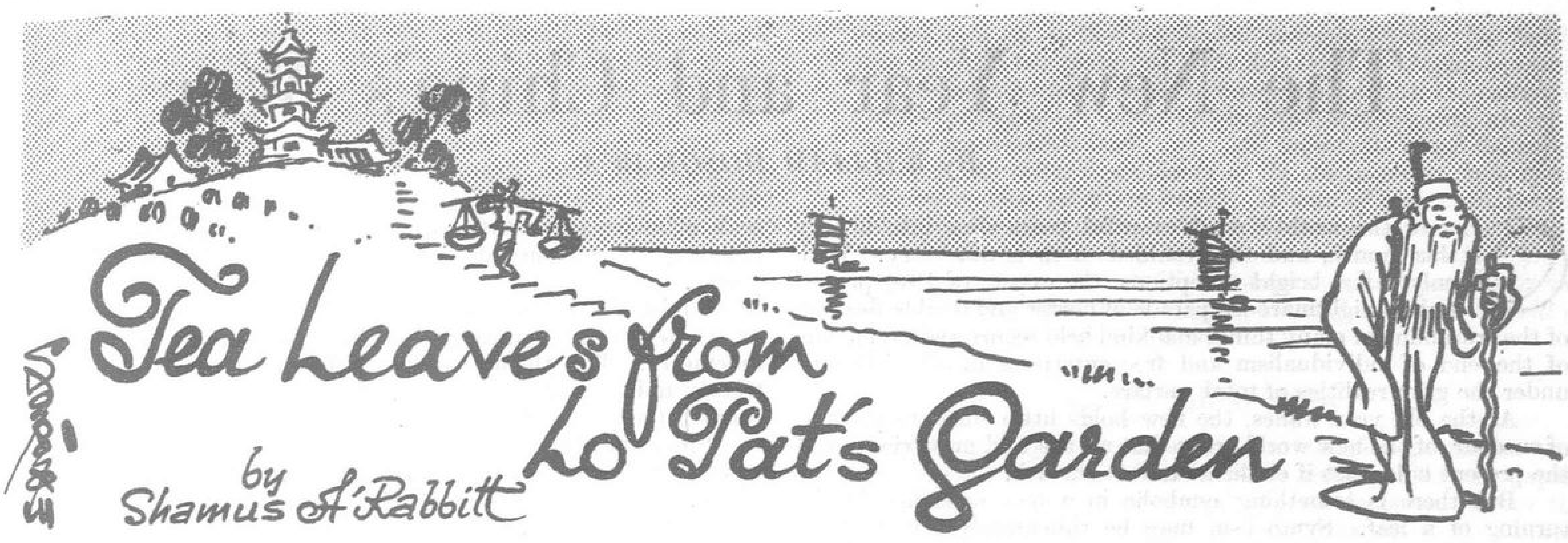
In 1903, Prince Saionji assumed his first Premiership. Later, he became president of the Seiyukai, one of the two most powerful political parties in Japan. In 1907 and again in 1911, he served as Premier. The year following his assumption of his third Premiership, Prince Saionji resigned from the presidency of the Seiyukai and in 1914 retired entirely from active politics.

With the termination of the Great War, the Genro went to Europe as the head of the Japanese delegation to the Paris Peace Conference. After his return, he was created Prince for his long and meritorious services to his country.

Prince Saionji served as envoy to Berlin while Bismarck still was in power. The Prince once said that even Bismarck showed the weakness of old age when he told one person twice the same story of one of his exploits in the Prussian War.

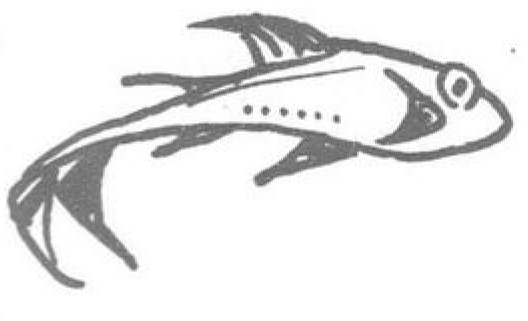
Despite his highly advanced age, Prince Saionji was able to think clearly and had an excellent memory. Besides being an avid reader, he was constantly informed of the changing domestic and international situation by his secretary, Baron Kumao Harada, who was in constant attendance.

Prince Saionji was a bachelor. During his active days, he lived in Tokyo, but recently had led a secluded life at his well-known Okitsu villa situated on the shores of Suruga Bay. His hobbies included engraving seals and raising bush-warblers—Japanese nightingales.



Tea Leaves from Lo Pat's Garden

by Shamus A'Rabbitt



The teaching that
"A Gentleman is slow to anger"
Has made many a man
Easy prey for sharks.

* * *

He who conceived
"The majority rules"
Should have remembered
That most men are fools.

* * *

A man happily married
May never know the habits
Of bachelors;
Men unhappily married
Find their greatest solace in
Imitating them.

* * *

Those who drink after dinner
Should be responsible
For seeing their comrades
to bed.

* * *

A gentleman will always arise
As though he had been in
his bed
All night.

* * *

A gentleman never parades
a disgrace.

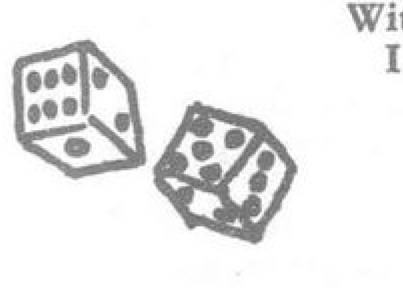
* * *

The Arabian Nights would
be unknown
If man was thoroughly
domesticated.

* * *

The majority of the "he-men" are
"He-sinners."

* * *



My path of roses hath been sown
With wildest oats and chaff—
I drank with men—the men I've known—
Men unafraid to laugh—
Yes laugh with hearty rigorous roar
To rattle their ribs and then—
To call for the dice and call for
more
Good wine for vigorous men!

Drinking would be a fine indoor sport
If it were not for the presence of
The widows and orphans of former champions.

* * *

"East is East and West is West"
Oft to the East the West seems best
And in the West we know the
least
Of what is best within the East.

* * *

The world seems a small place
As we pass and repass friendly craft
On many seas—
But the four walls of the
universe
Close in upon us
When we return to old hunting grounds
And find landmarks gone
And the scenes of past grandeur
Shrunken in the rush
Of so-called progress.

* * *

The man who gets indignant when asked
To pay a just debt,
Is like the lady who "protesteth too much."

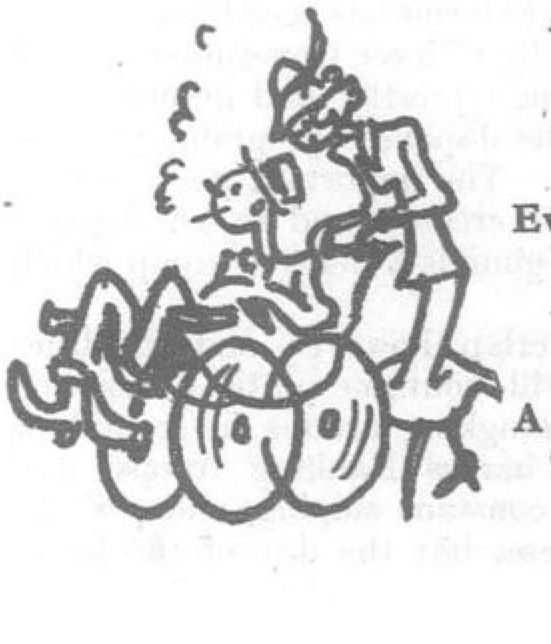
* * *

Some of our popular authors have produced
Best sellers by putting the heart
Of little Jimmy who supports his widowed mother—
Into the frame of a great big clod from the plains.

* * *

Wise is the man who does not allow a woman to know
When he catches her cheating.

* * *



Some men take a perpetual grouch
As a sign of "common sense"
And leave the laugh for the fools
Who stay behind to bury them.

* * *

Every man needs a mother, a sweetheart and a wife—
A clever wife is all three.

* * *

A man who brags that no woman
Can rule him—
Is half brother to the chap
Who argues with one.

The New Year and China's War

By WILLIAM HOSOKAWA

ONE of the world's most eventful years slips into history this month, and the troubled earth is not sorry. With only a few bright exceptions, the events of 1940 proved to be a nightmare-ish parade of horror and double-dealing, of the crumbling of many things mankind held secure and inviolable, of the end of individualism and free enterprise in all of Europe under the grim realities of total warfare.

As the old year wanes, the new holds little concrete promise of succour, of the new world order that we are told must rise out of the present holocaust if civilization is to survive.

But there is something symbolic in a new calendar, in the turning of a leaf. Symbolism may be ridiculously remote from such realities as the stuttering machine-gun or jagged bits of flying shrapnel, but in such times as these it seems men cling the closer to the hopes that are seen in symbols.

Especially among the ancient peoples of the Far East the new year is held a significant symbol. It is more than the close of a fical period, the ending of an old chapter and the beginning of a new one. The new year is held the symbol of hope for better things, when a new start can be made with a clean slate.

Thus it is with this view tnat those of this part of the world consider their number one problem, the Sino-Japanese hostilities. And for the first time in four years, there is hope that something concrete and constructive may develop toward the return of peace to the Far East.

On Saturday, November 30, Japan and Manchoukuo formally recognized the régime in Nanking headed by Wang Ching-wei as the Chinese Government. A treaty, which had been under negotiation for seven months, was signed together with various protocols, and the Nanking Government became fact.

No Immediate Change

This was the event that had been awaited by the Chinese peace bloc and the leaders of Japan to bring peace, prosperity and happiness to East Asia. Earlier in the hostilities this might have been accomplished. Now, the pact brought little change, and left China more divided against itself than ever. The step gained no formal recognition from nations abroad, and the new Nanking régime found itself suffering in both prestige and influence in comparison to the group administering affairs from Chungking. The pact even boomeranged a bit when both the United States and Great Britain announced the extension large credits for the Chungking Government.

The reason for all this, of course, is Chungking's continued resistance. The undeclared war may be in stalemate, but it is definitely not over. Tokyo was painfully aware of the fact. Ambassador Abe who negotiated the pact with Wang Ching-wei, noted it in a press conference immediately after the signing. While a settlement with Chungking is greatly desired, Tokyo spokesmen have indicated that the task will be left in Nanking's hands where conversations may be easier than through an alien power.

But if the pact failed to bring an immediate peace to the Far East, it did put Japan's China campaign in the vital second stage. The first stage, that of active military action in an effort to bring the hostile Chinese Government to terms has been brought near its end with the formation of a friendly Chinese Government. For the time being the matter of Nanking's prestige and influence are secondary considerations. Under the Japanese program, prestige and influence will come in due time. The important point is that a governmental organization has been created, and to all Japan's practical purposes, the Chungking régime is a fugitive group which has retreated to the far interior.

The first and second phases overlap, however, and hostilities will continue, of course. They will continue until Chungking comes to terms, for until then Chungking armies in frontal or guerrilla clashes will continue to harass Nanking troops and Japanese garrisons. There will be constant sniping, and periodic mopping-up activity by the Japanese, but the day of the large-scale offensive seems to be over, unless there is an unexpected turn of events, or until one side suddenly disturbs the balance of offensive power.

Under the Konoye statement of December, 1938, Japan disavows territorial ambitions in China and makes no claims for indemnity. This theme has been followed in the Nanking-Tokyo treaty, and no doubt will be carried out despite the loose wording of some of the points of that pact.

Since the Konoye pronouncement, Japanese spokesmen without exception have made pious statements about Japan's aims in China. To cynical Westerners they have sounded like so much hot air most of the time. Such promises of equality of treatment and opportunity as were voiced, never had a place in the Western scheme of imperialism, and it was inconceivable that Japan as a so-called tardy imperialist would suddenly put morality into the imperialistic code.

To those who know and understand the Japanese and the workings of the Japanese mind, however, there was a ring of sincerity behind those fine words. It was most unfortunate that extremists, pleading military exigency, in many cases walked rough-shod over the good intentions of the planners and nullified what progress had been made. Now, when the major military phase is near its end, there is hope for the return of more reasonable measures.

Many Mistakes Made

Japan's mistakes on the continent have been many, and none realize them more than the Japanese themselves. Foreign Minister Yosuke Matsuoka candidly recognized the nature of the task of rehabilitation and rectifying of past errors when he declared it would take 30 or 50 years to prove " we mean the things we are saying."

China, to be sure, has suffered through the centuries from recurrent invasions, floods, famine, pestilence and blood-sucking officialdom and war-lords. She has built up amazing recuperative powers. But in the face of an infant national consciousness, born to China for the first time, Japan may experience considerable difficulty in overcoming the anti-Japanese feeling among the masses. Unfortunately, previous Chinese régimes picked anti-foreignism as a national rallying-cry, and hatred of foreigners and their machinations was substituted for a healthy patriotism that could not be developed quickly enough in any other way.

This anti-foreignism was directed at various nationalities from time to time, notably against the British in the early days of Chiang Kai-shek, and later against the Japanese. The often heavy hand of the Japanese military—probably no heavier than tnat of any other military under similar circumstances—increased rather than discouraged this anti-Japanese sentiment.

Thus it was that neutral foreign observers could not reconcile Japan's avowed friendship for the Chinese people with the actions of the military. The Chinese are our brothers, and we will teach them to love and trust us and to look to us for leadership, the Japanese said as their armies pushed further and further into China in pursuit of governmental leaders that did not " understand " Japan's aims. This was indeed incongruous, but many strange things take place in war, especially in the Far East.

The time has come when Japan will be able to overcome her inconsistencies. The military phase of the China campaign may not yet be secondary, but it must share its place with the program of rehabilitation, the revival of commerce and other peaceful pursuits. The Japanese now can demonstrate the meaning of the New Order by peaceful action, something they could not accomplish by words alone during the time the military phase was predominant. In fairness it must be admitted that reconstruction in occupied territory in the midst of a large-scale war is an impossibility for any army.

Only by concrete acts can the Chinese be convinced that the Japanese mean what they say. Only concrete action will overcome the antipathy of a great many Chinese for the Japanese, built up by organized propaganda first, and reinforced by unavoidable scars that came of the war. Only by friendly demonstration can there be a real and lasting peace between two peoples who by all reasons should act as brothers instead of being at each other's throats pledged to resist to the bitter end.

At this early date there are signs already that Japan is on the way to carrying out her pledges. The foreigner may be surprised that Japan disavowing any territorial ambitions is carrying out her word, but the Japanese have been chagrined that their word should have been doubted in the first place.

Concessions Are Made

Several important gestures, such as the return of buildings, were made to the Nanking Government by the Japanese Army in Nanking at the time of the signing of the treaty. This has been followed up by the Japanese Navy which restored nine Chinese naval vessels, and barracks and parade grounds in Tsingtao, Chefoo, Lienyunchiang and the Liukang Islands to Nanking jurisdiction. Nanking's armed forces are being increased as rapidly as thorough training makes possible, including the Chinese Navy being trained by Japanese officers.

The city of Soochow, approximately half way between Shanghai and Nanking and renowned as a historic beauty spot, is pointed out as an example of what can be accomplished by Sino-Japanese co-operation under the New Order. The retreating Chinese forces did not apply their "scorched earth" tactics to Soochow when they left late in 1937, and so it was spared the useless destruction that most other cities suffered.

The Japanese took advantage of the peaceful atmosphere to apply and test New Order principles, and foreign observers attest to the success of the plan. While the city is under Japanese control, their authority is not so obvious as in other occupied centers. There are no Japanese troops within the city, and the Japanese civilian population of approximately 1,000 among a total population of more than half a million, has been carefully chosen as to character.

Life flows on peacefully in Soochow, much as it did before the hostilities except for the new efficiency of the public utilities taken over by the Japanese, the Japanese-operated bus line, and the influx of Japanese goods distributed by Japanese firms using Chinese employees as well as by Chinese merchants themselves. Japanese officials declare Soochow has passed the experimental stage successfully, and foreigners declare that the Chinese are living a peaceful and apparently happy life. Through the centuries the Chinese masses have asked only that they be left to live in peace, and they have much to be thankful for if this is but the least of the blessings of the New Order in its best aspects. It is to be hoped that the same principles can be applied soon to less fortunate sections of occupied territory.

Undesirable elements among the Japanese poured into China in the past, and they were the cause of much friction between the Japanese and Chinese, and Japanese and third power nationals. They were typical "carpet-baggers" of the kind so well known in the American South after the Civil War. Japanese officials have restricted all migration by Japanese into China, however, and undesirable characters are rapidly being apprehended and deported. Their often unscrupulous, quick-money ways are incompatible with Japan's long-range plans for the New Order.

All these actions speak more convincingly than words ever could of Japan's good intentions. Not only are the intentions given voice, but there is concrete proof of Japan's progress in bringing about the peace and order that she has pledged to do. Japan was faced with the impossible task of demonstrating her intentions while hostilities raged. She was able to do but little of this, and the advent of the second phase should be a great help in developing the program.

In this connection considerable interest was aroused over an article recently by Dr. Susumu Matsumura in the Tokyo *Nichi Nichi*, one of Japan's most influential newspapers, asserting that moral virtue must be the basis for Sino-Japanese co-operation. Dr. Matsumura is chief of the Culture Section of the China Affairs Board and former professor at the China Medical University. Dr. Matsumura made a number of interesting observations, but the gist of his article can be summed up in the following few quotations:

"* * * *Any effort on our part to convince the Chinese of the falsity of their views about Japanese civilization would merely resolve into an endless ideological struggle between the intelligentsia of the two countries. The first thing for Japan to realize is that such efforts to make the Chinese appreciate the culture of Japan expressed in terms of scientific achievements are of a merely materialistic level. . . . All arguments about the superiority of the cultural standards of the Japanese to those of the Chinese or vice versa are trivial. A man of high character can make others respect and love him without any demonstration of his materialistic stength. I believe that what will best guide the Chinese is the virtue to be cultivated by the Japanese, and, for this reason, it is earnestly hoped that many Japanese of high morality will go over to China as soon as possible.*"

Japan's Initial Aims

Surprise has been expressed in certain foreign circles that such sentiments would be allowed to be aired publicly in Japan. This is, however, to misunderstand the whole issue. From the very beginning Japan declared she was not warring on the Chinese people, but on the government that had led the people astray. While this sounds like many another propaganda cliche so overused in previous conflicts, specific orders were issued to observe this principle in the conduct of the war.

Japanese nationals have been cautioned to take a liberal and friendly attitude toward the Chinese in contrast to the patronizing or arrogant air of a conqueror. It has been emphasized that China's national integrity will be recognized, and the Chinese have been encouraged to strengthen themselves to play a vital and co-operative part in Japan's plans to emancipate Asiatic peoples from western domination. Chungking's policy of Chinese national unity through anti-Japanism and continued resistance has been scored, and Nanking's policy of Chinese national unity through co-operation with Japan has been endorsed.

It is most deplorable that human weaknesses and the familiar old military exigencies prevented Japan from conducting her campaign on this idealistic plane. Lest the Japanese forget the original aims, Dr. Matsumura's article was a timely warning to restore the ideals now that the second phase is here. Dr. Matsumura's thoughts are neither "dangerous" nor contradictory to state policy as Chungking Chinese sources have hurried to assert.

These, then, are the thoughts for the new year that looms imposing and promising. There is no assurance that the next twelve months will be any less difficult than the preceding twelve. But the turning point has been reached, and there is hope that truly commendable ideals will find form under the courage and good sense of the peoples of the Far East. Certainly, the stage has been set for the return of peace and order through co-operation in this, the second phase of deplorable hostilities in China.

Diesel-Electric Locomotives in Industrial Service

Widespread adoption of Diesel-electric locomotives in a wide variety of industries is revealed by a survey recently completed by the General Electric Company, Erie, Pa. More than 40 such locomotives have gone into industrial service since the new type was introduced above two years ago; and more than half of this total were delivered or are on order so far this year.

Cement, paper, sugar, soap, roofing, steel, asphalt, and chemical plants are among the users. So are coal mines, quarries, shipbuilding yards, and constructors. Geographically the locomotives are in service from Canada to Panama and the Philippines, and in 19 states between the four corners of this country—Washington, California, Florida, and New England. The locomotives range from several of 20 tons and 150 horse-power to some of 80 tons and 500 horse-power. Additional to the Diesel-electric locomotives in industrial service, many have been delivered recently or are on order for railroad switching and branch-line service, the company reports.

Reports from different industries using the new Diesel-electric locomotives show surprisingly large savings, particularly in those cases where the new locomotives replaced steam locomotives of many years' service.

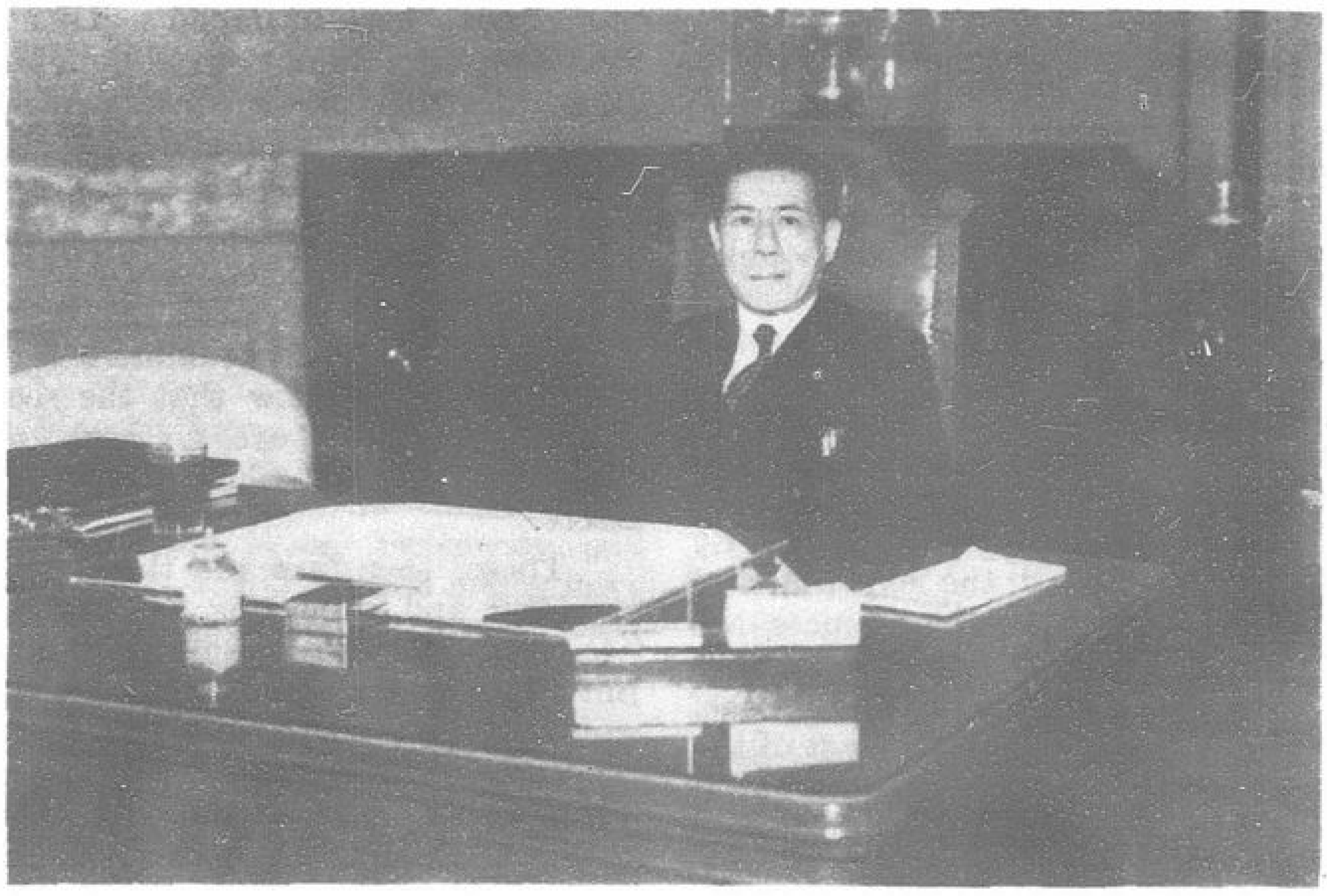
Chen Kung-po—Mayor of Shanghai

By IPPEI FUKUDA

EARLIER in the day I had had a long talk with Mr. Wang Ching-wei, head of the National Government of China at Nanking. Of course he did most of the talking while I kept my pencil flying across the backs of visiting cards which, by the way, are the easiest thing to accumulate in China. I thought I was better prepared to face another special interview with Mr. Chen Kung-po, President of the Legislative Yuan, later destined to succeed the murdered Fu Siao-en as Mayor of Shanghai.

It was the hottest July 10 Nanking had ever encountered, my interpreter told me. I felt there something of the merciless, nerve-racking blaze which greated me in Colombo on my way back from Europe. Below, I give some of the hurried jottings I made while listening to Chen Kung-po the loyal supporter of Mr. Wang Ching-wei. Incoherence and impudence should be unavoidable under such circumstance and on such a weary day!

> *About five feet five. Solidly built, almost athletic. As swarthy of skin as his chief is fair. Looks not a bit like Clark Gable whom his many fair admirers hold to be the nearest approach to their handsome he-man. His glumness to-day may have something to do with snags in the treaty negotiations. In a shirt open at the neck. No cravat. Never met a Cabinet member so attired.*



Chen Kung-po, Mayor of Greater Shanghai

Dissimilar as they are in their appearances, the two eminent leaders of the Peace Movement in the war-torn Republic have many things in common, or they could not have marched arm in arm as they have done throughout the stormiest period in the history of modern China. They are both sons of Kwangtung, a province noted for its faith in progress through revolution. Their opposition to the clique headed by General Chiang Kai-shek for some years preceding the China Incident consolidated their alliance which to-day offers no sign of weakening in the face of the thick and thin they are determined to go through together. They will fight on until the day when the dreams of their great co-country man and standard bearer of the Chinese Revolution, Sun Yat-sen, come true.

That Mr. Chen Kung-po has a line on him in "Who's Who in China" published by the *China Weekly Review* which proclaims him to be "one of best-known younger leaders of the Kuomintang Left Wing" appears to me to be a notable tribute to his character and prestige, considering the pronounced anti-Nanking feeling of the publishers.

"Like Father, Like Son"

Although little is known of the old man, Chen Kung-po's father seems to have been as militant a revolutionary in his day as his famed progeny has been in his. During the early years of the Revolution, father and son took prominent parts in an abortive revolt in Canton resulting in the arrest of the former and the flight to Hongkong of the latter who at that time was but a sixteen-year-old youngster! Call him a born firebrand if you like. But all Chinese leftists are born firebrands: we find them at the head of rebel soldiers in a civil war or agitating for an uprising while in their teens.

Now with his father in prison—a revolutionary as a rule is not much of a provider even out of it—young Chen was left to his own devices. Not long after his narrow escape, he returned to Canton where he turned to journalism for a living. First he began as a printer's devil, then he quickly rose to the dignity of proofreader at the salary of 15 Chinese dollars per month of which, month in and month out, 10 dollars went to his mother who had by then become to all intents and purposes a bereaved, penniless widow. It should seem incredible to anyone who knows anything about the menacing price-level in contemporary China that a man could have been able to keep his body and soul together just on $5 a month.

It is further said of the energetic and ambitious youth that he was, that Chen Kung-po attended a night school to study English. Perhaps he owed more to his steeled physique and determination than to the lean wealth he could call his own, for his survival through those fighting years. *The Social*, a daily he worked for, was an organ of the radical intelligentsia of Canton whose business showings were always in the red. As their early enthusiasm waned, men on the editorial staff of the paper left it one after another and it was not long before our proofreader at $15 a month was promoted to its editorship.

The fact that many prominent leaders of China took to journalism at one time or another during their budding years interests me. Wang Ching-wei, Lin Pai-sheng, Chen Kung-po, Chou Fu-hai and other leaders at Nanking, all were "gentlemen of the press" before they rose to power. Much the same thing can be said of majority of the Chungking chiefs. In no other country is journalism so overworked as a short-cut to political eminence as in China.

A Ladder to Prestige

Young aspirants came to regard it as an emporium where of all places they could show their wit and abilities to the best advantage, or as a lobby in which they found it easiest to contact the Minister of this or that Yuan. It seems that journalism as a. respectable profession in its own right is yet to arrive in China. Transients, bustling in and out of an editorial room, staying for their own advantage and not another second after they succeed in cultivating contacts with the higher-ups in politics, cannot be expected to set a noble standard for any newspaper.

Chinese are by nature fine writers. And they have behind them the richest and oldest traditions in literature in the world. Mr. Chen Kung-po is a notable example. Unlike most Chinese statesmen, he writes every message, proclamation and statement himself and they are among the most forceful, clear and facile writings I ever read. There is a great hope for Chinese journalism, a fulfilment of which will probably raise it to a higher plane than ours has ever achieved.

While Mr. Chen Kung-po, editor of *The Social*, was striving like mad to keep his financially-gasping paper going somehow, China acquired a fresh impulse to swell its already much too complicated politics. It was Communism. In July, 1921, we find Mr. Chen at the first plenary conference of Chinese Communists as delegate of Canton, his home town. There was Comrade Mao Tse-tung who represented Changsha. Mao is to-day the Stalin in the Red areas of China and a powerful ally of General Chiang Kai-shek. From Japan where Chinese students had been nibbling at Marxism came a sleek young man called Chou Fu-hai who was to become Wang

Ching-wei's Minister of Finance nineteen years later. This promiscuous assortment of Pinks and Reds drew up a set of resolutions centering on their avowal to paint China red some day. Chen Kung-po no doubt delighted in the stirring novelty of the Soviet ideology. But he left the fold with little remorse and less hankering when Sun Yat-sen chucked Soviet Russia once for all shortly before his death in 1925.

And About Communism

In his recent lecture at the Imperial University of Kyushu, the ex-Communist called the bluff of the Chinese Communists. "By far the most serious and pressing of China's problems," he said "concerns agriculture. The Communists in my country have derived no end of political capital by capturing the hearts of the poor farmers through slow pressure and persuasion. Their promise to palm off farm land for the asking, has armed them with a telling weapon. The promise, however, can never be made good for the simple reason that our arable land falls far short of satisfying the needs of overflowing farm labour. Besides, the Communism as propounded by the Chinese Communists is not necessarily identical with what has become the keynote of life in Soviet Russia. In point of fact, their creed is nothing but a plagiarism of Dr. Sun Yat-sen's Three Principles of Nationalism, Democracy and People's Livelihood. Industrialization of China offers the only solution of the problem."

When Wang Ching-wei broke with Chungking to defy openly its "resistance at any cost policy" late in 1938, Chen Kung-po went to Hongkong to make—common cause with his chief and comrade.

On the launching of the Orthodox Kuomintang Party the following year, he was elected member of its Central Executive Committee, a key post which he has held ever since.

The word "orthodox" is significant. For all the jeers and abusive comment these Nanking leaders have weathered since their flight from the "war capital," they have been more loyal to the stand of the founder of Kuomintang than General Chiang Kai-shek and his friends, to say nothing of the Reds now under his leadership. At no time in his stormy life could Dr. Sun Yat-sen be brought to believe in rivalries between his country and Japan. It is only fair to regard the leaders of the reorganized party as orthodox upholders of his program in its original form. Obviously, they have stout skeins of consistency to fall back upon to defend their honor against Chungking's attacks on them.

If there is a Chinese statesman who is found most unyielding when it comes to a matter of principle it is Mr. Chen Kung-po. He is not, as some might imagine, an avenging angel with a marked bent of anti-foreignism, but there are reasons to predict that he, now as Mayor of the Shanghai Special Municipality, may bring jitters to local foreign critics because of his terrible, forthright consistency.

Tells His Aims

In an after-dinner address at the Astor House Hotel, Shanghai, on December 10, Chen Kung-po, President of the Legislative Yuan of the Nanking Government and concurrently Mayor of Greater Shanghai, sought genuine co-operation from the Japanese officials and leading business men. He told the audience that he would concentrate, above all else, on restoring peace and order in a city famed for its apalling general lawlessness and horrors of daily murders. He was also most anxious to settle the livelihood problem of all Chinese here, including those living in the foreign areas.

To anyone who is new to Shanghai, anyone to whom life in a civilized community has not become a thing of the past, the unspeakable miseries that are laid bare at every turn must needs be shocking. A total of 2,172 bodies were picked up in the streets of Shanghai in November, says an official report. Killings, robberies, incendiarism are so rampant that plain facts here would make movie notions of Chicago at its worst blush in discomfiture. All this in spite of the fact that the Special Municipality with its Mayors and Deputy-Mayors and what not has been in existence for years. Mayor Chen Kung-po to-day faces a difficult situation, an unwelcome left-over of misrule. But he is a man of his word. He has always stood for clean government and efficiency. General Chiang Kai-shek's so-called Northern Punitive Expedition in 1926 is said to owe its success in no small measure to Chen's incorruptible devotion to the well-being of the people affected by the campaign.

An excerpt from Who's Who in China follows. "Chen Kung-po, member of the Central Executive Committee of the Orthodox Kuomintang and supporter of Wang Chin-wei's Peace Movement; born in Kwangtung, 1890; attended the Canton Law College and the National University of Peking, taking courses in philosophy; studied economics at Columbia University, New York, graduating with M.A. degree; joined the Hsin Chung Hui (predecessor of the Kuomintang) at the age of 16 and in the early years of the Revolution, he together with his father started a revolt in Canton, but the attempt was frustrated by the Manchu officials, resulting in the arrest of his father and his own narrow escape to Hongkong; editor of *The Social*; member of the Central Executive Committee of Kuomintang and concurrently commissioner of agriculture and labor of Kwangtung Provincial Government; chief of the political training department of the Military Council, and President of the National University at Canton, 1925..........Minister of Industry of the National Government, 1932-35; special envoy of the National Government to European countries on a good-will mission, 1937-38; joined Wang Ching-wei's Peace Movement after the latter's flight from Chungking in December 1938."

The Mosquito and the Elephant

ONE day a malaria mosquito saw passing along the road from Colombo to Kandy, an elephant who walked with a dignified air, bearing on his back a prince seated under a baldaquin, which protected him from the sun's rays. Whilst this was an imposing spectacle, neither the majestic bearing of the elephant, nor the haughty air of the prince, nor all the pomp thus displayed, made the slightest impression on the mosquito.

He was perched on a stiff blade of grass and regarded the huge animal and his master with disdain.

"What a delusion!" buzzed he. "The elephant certainly thinks he is most important, because he takes up so much room, and the prince, because he's got so much money. How they deceive themselves! Undoubtedly they think that I'm only a miserable little mosquito. But I only need to give the prince a good bite and he will die; at the same time the elephant will lose his master and die of hunger in the forest."

He began to buzz wickedly, looking for a suitable spot on the prince's head, to give him a dose of malaria. But the elephant, with his enormous ears, had heard everything that the mosquito had said and cried: "Buzz off, you bad mosquito. My skin is too thick for you to pierce it. And as for my master, he is proof against your poison, for he carries out the recommendation of the Malaria Commission of the League of Nations, which prescribes the taking, as a preventive measure against malaria, six grains of quinine every day during the fever season, and to cure an attack, a dose of 15 grains to 20 grains of quinine per day during five to seven days. On page 125 of its report, issued in 1938, this Malaria Commission stresses the fact that among the anti-malarial drugs, quinine still ranks first in current practice, by reason of its clinical effectiveness and almost complete absence of toxicity, coupled with the widespread knowledge of its use and dosage. What do you think of that?"

Deeply astonished, the mosquito listened to the unexpected and wise statement of the elephant and had to admit that if the huge animal had a large head, he had certainly got a good brain inside it.

Lost in thought, the mosquito went back to his perch on the blade of grass. When he came out of the doze into which he had been plunged, he could just see the vague outline of the clever elephant and his master at the far end of the dusty road.

Oil in Inner Mongolia

Japanese engineers, under the leadership of the engineering department of Kyoto Imperial University, will start "large scale drip drilling" for oil at Dzalainoerh in Inner Mongolia, according to a report in the *Yomiuri*.

The paper is of the opinion that this Inner Mongolian field will be much better than those at Fuhsin, Jehol Province, Manchoukuo, which have been in the limelight recently as a result of the striking of oil in the Fuhsin Well No. 1.

Meanwhile, the Miyako reports that considerable oil is being taken from the No. 1 Fuhsin well daily and that an engineering corps from Hsinking is at present working on the Fuhsin No. 2 well.

China's Role in World Conflict

By C. J. LAVAL

That part of China, ruled by the Chungking régime, which continues to be recognized as the Government of China by the great Powers overseas, abruptly has been lifted in the whirligig of international diplomacy into unwonted prominence in world affairs. By virtue of an Anglo-Saxon concept called democracy, which only an infinitesimal part of China's great population in the least degree understands, and which no Chinese ever has experienced on his native soil, the fates lately have dealt beneficently—and gratutiously—with the Chinese. Events have fallen in such fashion that for practical uses China has attained rank as a full-blown democracy. In achieving this China suddenly has grown so much in stature as a power as to attain to a kind of parity with Great Britain, and at the same time millions in treasure, or its equivalent, have been poured into the outstretched hands of Chungking officialdom. In what measure the masess of the Chinese people, the Nation itself, will share in all this, or how the desperate plight of these starving people may be relieved remains to be seen.

To bring about easier conditions for the Chinese masses that are destitute and striving to survive, no complex undertaking or procedure needs to be followed. It is necessary merely to increase the purchasing power of the people, and this may only be done by giving greater value to the money of the Chinese people. As these words are written the Chinese monetary unit, the dollar, is worth just a little more than five cents in American money. Rice, the staple food of China, stands at a price level ten times its normal cost—about $125 a picul of 133½ pounds. The Chinese middle-class family that has a revenue of as much as one hundred Chinese dollars monthly rates far above the general average. It is estimated that the annual per capita expenditure of China's four hundred-odd millions is about ten dollars—at present-day exchange rates, about an American half dollar. When the Chinese dollar will buy more rice, and more of all the necessities of life, then, and then only, will the lot of the people of China be bettered. Increased value of Chinese currency will immediately bring a uniform reduction of all living costs that now stand at such fantastic values.

In China's Money Market

The thermometer which records China's financial temperature hangs in Kiukiang Road in Shanghai. To the outsider merely observing recent trends it seemed singular that as the announcements of hundreds of millions in credits for China were issued one after the other —from Washington, from London, and even from Moscow, the financial thermometer registered no changes and failed to reveal any trace of strengthening in the value of China's shattered currency, even when specific statements were made that a considerable portion of the loans from overseas was for the purpose of stabilizing the currency of China.

What the composite mental attitude of the Chinese money traders of Shanghai may have been through this period is to be surmised from the cynical observation that while the Chungking Government " will fight to the last American dollar," the people of China can look for no direct help. In the flood of new foreign loans astute Chinese financiers clearly have been unable to see anything helpful for the people of the country, and as the total of these huge credits from overseas has mounted, the Shanghai money market has remained " uncertain and easy." In the market the belief appears to be that as long as the American goose continues to function—the goose that lays the golden eggs—Chungking will have no truck with peace talk, on any terms whatever with anybody, and warfare and disorder with consequent destitution for the people will continue unabated. These are the simple bald conditions, the realities, and blaming the Japanese or seeking to punish them with measures " short of war " can be helpful in not the least degree.

This is by no means to contend that the distressed people of China should not be given aid in the fullest measure and as quickly as possible, for they are worthy and their needs, as has been the case so many times in the past, are desperate. Butter, not guns, can assauge the misery, for if the resources of all the arsenals of the western democracies were placed at the disposal of the Chungking Government, this would not avail for the relief of the common people of China. The cost of giving help to the people of China undoubtedly runs to a huge total, but it means taking a long and uncertain way around to the objective if the money involved is sent to Chungking. This is an " all the way through " task, and to be effective it requires personal responsible direction from beginning to end. Mouldering and forgotton in the archives at Washington is an American Red Cross report on work in China of some fifteen years ago. This should be resurrected and studied carefully by American philanthropists of the present day. The report in question tells succinctly of failure to supply the fullest relief in a great famine in North China and gives the reason. The American Red Cross workers of that time with funds in their hands had sought to go into the famine area to bring relief, but the Chinese overlords demurred and spoke of personal dangers. The Chinese officials desired the American Red Cross workers to give them the money, saying, " We will spend it for the starving people." The American Red Cross workers saw fit to decline this proposal and were compelled to turn back. As the writer recalls about three million Chinese perished in that famine.

An Imaginary Parallel

The recent grants in aid of China from Washington and London assuredly were initial manifestations of the disapproval of the United States and Great Britain of the recently concluded Tri-Power Treaty into which Japan entered with Germany and Italy. In Great Britain's grim fight for survival she has the whole-hearted sympathy and support of the American people to the extent that virtually the United States is allied with Great Britain in the European war. It follows that when Japan threw in her lot with the enemies of Great Britain and became the ally of Germany and Italy, the Western democracies at once placed Japan in the same category with Germany and Italy. Perhaps it was not so much to aid China as it was the bring discomfiture to Japan that the United States and Great Britain have rained favors on the Chungking Government. In this manner the cause of China in her conflict with Japan, which has been in progress three and a half years, became directly linked with the cause of Great Britain in the European war. Consequently when questions of giving war aid are talked about in the United States the common viewpoint heard is that the United States must give all possible aid to Great Britain *and to China*. This is the familiar phrasing of American spokesmen of the day who disregard the plain fact that no parallel can be found in the situation in Europe with the situation in East Asia from the viewpoint of American interests.

The American people appear to be unanimous in the belief that if Great Britain is defeated in the war the American Nation will be directly menaced. This conviction furnishes sufficent reason why the United States should give all aid possible to Great Britain. Undoubtedly this viewpoint has sound basis, but it cannot be contended seriously that the conflict in China and the situation in the western Pacific is similar in any way from the standpoint of American security. If Great Britain should be defeated and Herr Hitler bestrode all Europe commanding all European resources it would be far more likely that any conflict in the western Pacific would develop between a Germany flushed with victory and Japan, despite any treaties or present-day conventions. The factor that Russia supplies also is to be borne in mind.

Japan's Sphere Limited

If Japan should realize all her aspirations in continental Asia and in the South Seas, she would be fully preoccupied for the next century in holding to her position in this sphere and would have no energy or resources for any adventuring eastward toward American territory. The American Government has moved definitely to keep its pledge and give independence to the Philippine Islands, and no indication has yet been given of any departure from this purpose. If Washington's benevolent interest in the Philippines is to be maintained in one way or another, or if Washington deems it the course of wisdom to protect the security of the Islands, it is to be pointed out that the Tokyo Government repeatedly in the past has offered to give guarantees with regard to Philippine security. If the Washington Government elects to become the protector of the Far Eastern possessions of the conquered European countries with the added burden of safeguarding the vast interests of Great Britain in the Far East, it will take up a task that will be immensely costly to the American Nation, that must last through many decades to come, and is fairly certain to involve warfare in the Pacific.

Progressively in the territory their armies occupy in China the Japanese have been imposing the same controls and the same drastic restrictions on commerce that they have been imposing on the inhabitants of their homeland. This hampers business enterprises of third power nationals in China and in most cases affects these foreign interests adversely. This procedure in China runs counter to assurances that Japanese official spokesmen often have given that " third power rights and interests in China will be respected," and up to this time the restraints have been continued on the grounds of military expediency. In general, the restrictions are being enforced under orders of Japanese Army officers. Undoubtedly Japanese activities of this kind have put a severe crimp in business in China, affecting both Chinese and alien interests, and the future outlook is most uncertain. While overseas powers, it is clear, have no intention to recognize the newly formed Chinese Government of Wang Ching-wei at Nanking, which has just made a peace treaty with Japan, it is certain that this new Government will take over and exercise complete authority over all those parts of China in which third power interests are located. As sovereign rights of government will be exercised by the Nanking Government in these areas third power interests therein will have to submit to the dominance of Nanking.

What Will Washington Do?

The Washington Government recently advised Americans in China to leave and go home and many have departed, but it is unlikely that Washington will be impelled to take any grave step in the Far East by impositions on or adversities that American business interests in China suffer. Measured by international standards the American commercial stake in China is negligible, and it is accepted that the major American interests, public utilities and financial enterprises, which are concentrated at Shanghai, in any case cannot be more than embarrassed, whatever the Nanking Government or the Japanese may do.

It is amply assured that however aggressive Dai Nippon may become on the Asiatic mainland and in Far Eastern waters, she will not adventure a single mile into the Pacific in the direction of American territory and all indications are that she will be at pains to avoid any entanglements involving the Philippine Islands. If a war in the Pacific is to be fought, therefore, it will be a naval conflict and the United States will have to start it. If the United States achieves complete success in such a war and crushes Japan, then to gain anything from the victory Washington will have to throw overboard the traditional American standards and policies of the past, set a new course of conquest and aim at Asiatic domination. The American Navy and American armies then will have to be stationed permanently in the Far East to safeguard American interests and maintain the state of affairs the United States will have achieved by eliminating Japan. If the United States should defeat Japan in a Pacific conflict and then seek to withdraw, such a war might be of benefit to European powers whose Far Eastern possessions would be saved and handed back to them, but the bulk of American trade in the Pacific assuredly would be lost, American influence in the Far East would be expelled and the way unimpeded to the Pacific seaboard and through China would be left open for the armies of Soviet Russia, fulfilling every dream of the Master of the Kremlin. The United States then would have new and far more potent reasons to come to the aid of China and this could only be done by sending the troops.

The Sino-Japanese Treaty

By T'ANG LEANG-LI

The Treaty of November 30, 1940, regulating the basic relations between China and Japan, has been the subject, in many quarters, of deliberate distortion, in others of misinterpretation, while generally there has been little, if any attempt to arrive at a proper understanding of its provisions, viewed in the light of the realities of the situation and in comparison with other treaties or agreements of a similar nature.

Instead of examining the Treaty dispassionately, critics have almost universally tried to find fault, to represent it as the instrument whereby a victorious Power imposes crushing and humiliating conditions on a conquered one, whereas it is in fact a Treaty of Alliance concluded as a result of prolonged negotiations on a basis of equality and in a spirit of sincerity by which China and Japan mutually turn an enemy into a friend and co-operation is substituted for conflict.

In fact, when one views this Treaty in comparison with other treaties—the Treaty of Nanking, of Tientsin, the Boxer Protocol—China has in the past been constrained to sign, not as the result of negotiations with, but of one-sided dictation pure and simple by, invading Powers whose grip never extended more than a few miles inland from one section only of the coast, or with such instruments as the Treaty of Versailles, the incredible moderation, generosity, of the terms to China cannot find any other explanation than the sincerity on the part of Japan in her efforts to establish a New Order in East Asia based on justice, equality, and mutual respect.

The Strike Contrast

Turning to specific points, the most striking thing about the Treaty is that China is required to pay not one single cent of indemnity to Japan for the cost of war operations, and here one might look at the contrast afforded by the huge sums China was required in past years to pay in indemnities, notably by the Boxer Protocol, or at the astronomical sums which the Allied and Associated Powers, tried by the Treaty of Versailles to extract from Germany.

Nor is there to be any cession of Chinese territory, in distinct contrast with all China's experience at foreign hands hitherto and even not necessarily as a result of defeat in war. Rather, the present Treaty envisages the return to China of concessions already held by Japan, and the surrender by Japan of her extraterritorial rights and privileges. It should be noted, too, that China is not even required to meet any of the cost of the army of occupation which will necessarily remain pending the final establishment of peace and order.

It is Japan herself, not China, who is to pay for every picul of rice, every pound of meat, every piece of egg consumed by the Japanese soldiers in China—on similar terms as other Chinese consumers. If this were not generous enough, Japan is to return, with but a few exceptions of a military character, all industrial, mining and commercial establishments under Japanese control to Chinese management, a provision which with the return of the Kwangtung Government and other factories is already in the process of realization.

What of France?

Compare this with what has elsewhere been the practice, a practice sanctioned by the accepted rule of war. Germany had to pay for the cost of the Allied troops on the Rhine after 1918 and for the French occupation of the Ruhr in 1922; this later resulted incidentally also in the crash of the German Mark. More recently, France is paying Germany RM 20,000,000 or CN$140,000,000 a day to meet the cost of the German troops of occupation—paying, under what is regarded as an honourable armistice agreement, a daily amount equal to one half of the total annual revenue of the Chungking Government.

It is France, not Germany, who has to pay for all the expenses of maintenance of the German troops. And if the Franco-German arrangement is regarded as honorable, what is one to call the Sino-Japanese Settlement except as just and generous, in absolute accordance with the Oriental precept of right and justice ?

The only article which envisages any payments to Japan is that requiring the compensation of Japanese subjects in China damages to rights and interests suffered by them as a result of hostilities, as, we surmise, for example, the wanton destruction, unconnected with military necessity and by direct order of General Chiang Kai-shek, of Japanese cotton mills at Tsingtao.

On the other hand, Japan, in the same article promises, as a *quid pro quo*, to assist China in the work of the rehabilitation of Chinese rendered destitute by the same hostilities. The absence of any provision for any machinery to assess damages must further be apparent to any but the blind and prejudiced.

No Indemnities

The fact that Japan has renounced all claims for an indemnity for the cost of war operations, including the expenses of the army of occupation, shows the sincerity of her undertaking to effect the total after the end of hostilities, it is China's interest no less than Japan's that evacuation be completed as quickly as possible, and that the national resources and national income of both countries be devoted to reconstructive purposes to the benefit of all instead of being wasted on objects which both parties are agreed to be regrettable but unfortunately as yet unavoidable. All that General Chiang Kai-shek has to do, therefore, if he is sincere in wishing to see an honorable peace and China free of Japanese troops, is to conclude the armistice President Wang Ching-wei has urged him to conclude, and peace and evacuation will immediately set in train.

Stationing of Troops

Criticism has been made of the provisions allowing the stationing of Japanese troops in certain areas of Inner Mongolia and North China, but the conditions under which those troops will be there are completely ignored. The spirit is far different from that of the Boxer Protocol, which granted certain foreign Powers the right to station troops in North China. That was an act in definite derogation of China's sovereignty, the troops were there to be used against China and for an indefinite period, not as in the present case as the allies of China against a common foe and only during such time as their presence may be necessary in accordance with a definite agreement.

Moreover, there will be no motive for Japan to find reasons for prolonging their stay, rather they will wish to withdraw as speedily as possible, since they will be bearing all the costs of these garrisons. It should be emphasized also that agreements permitting one ally to station troops in the territory of the other for purposes of common defense are regular international practice.

Twice, for example, in the last 25 years British troops have been so stationed in northern France and French naval bases put at the disposal of British warships. Poland, in 1939, refused the stationing of Soviet troops and the passage through her territory and as a result suffered national extinction.

Realities of Situation

The Treaty recognized Manchoukuo, but that is a step Chungking has been prepared to take for some time. Even Chiang Kai-shek has been unable to ignore the realities of the situation there. The Powers, including Great Britain, have long been according in practice *de facto* recognition, and to have deferred peace until Manchoukuo could have been brought back under the Chinese flag would have been to wait for the Greek Kalends.

As President Wang said, we were brothers before, we are and shall always remain brothers. Such recognition of the independence of a daughter-country is no new thing in history. Holland had to recognize the independence of Belgium ; England, the independence of the United States. And if our American critics plead that we are condoning aggression instead of sincerely readjusting the relations between our two countries, let us refer them to the American record in the Caribbeans and Central America ; to the British record in India and China ; to the recent recognition by the Powers, after a lot of unnecessary bungling and blunders, of Italy's conquest of Abyssinia ; to the British recognition of the incorporation of the Baltic States into the Soviet Union.

Much, too, depends on the point of view. If to some, like the Uruguayan Senate and the Mexican nationalists, America's acquisition of Great Britain's West Indian possessions to be utilized as naval and air bases looks like a triumph for American imperialism, to Great Britain it is a measure for common defense, and this is how we regard the military and naval clauses we have concluded with Japan.

Friend Not Enemy

One of the main points of the Treaty to us is that we gain thereby a friend instead of enemy. Particularly can we look forward to Japanese help and co-operation in the work of the rehabilitation, reconstruction and development of our country. The clauses providing for this have, we know, been the target of much foreign criticism due to foreign fears that their own privileged position is threatened. With criticisms thus inspired we say bluntly we are not threatened. We are Chinese patriots, not foreign sycophants.

The Treaty has to be judged as all fair-minded men will agree, as it affects Chinese interests, not foreign. If it promotes Chinese interests, it is a good one ; if it does not, then it is a bad one, and it is our contention that co-operation with Japan in the creation of a New Order in East Asia—the basic foreign policy advocated by our late Leader Dr. Sun—is eminently to China's interest.

We can, for example, obtain from Japan that technical assistance, for which in the past we have turned to Western countries, at a much lower cost, since we shall not have to pay exorbitant gold dollar or sterling salaries, and with no loss of efficiency. Already this factor can be seen at work in the realm of communications ; fares on the railways and for air travel, for instance, rule lower now than they did in pre-hostility days, very much lower indeed when the comparison is on a gold dollar basis.

Moreover, if we turn to North China, we see there a number of new railroads either completed or in process of construction as a result of Sino-Japanese effort. These railways, though often mooted in the past, never materialized owing to high construction costs due to reliance on western assistance.

In saying, however, that we are not concerned with foreign criticism of the provisions for Sino-Japanese co-operation, based as it is solely on selfish fear, we do not admit the correctness of the assumptions which cause that fear, namely that Sino-Japanese co-operation means the ruin of all other foreign interests. There will still be plenty of room for legitimate western enterprise, it will be open to westerners to compete on equal, but not privileged, terms with others.

Western Trade

Western trade, in fact, will find in the New China, developed by co-operation with Japan and in consequence richer and more prosperous, as many if not more opportunities than it finds to-day. In admitting Japan, we are not, and have no thought of expelling the West even if it is possibly no longer to enjoy " Most-favored-nation " treatment. For it must be realized that special privileges can only be granted against a *quid pro quo* that what advantages one nation acquires by virtue of its special efforts and of its special relationship cannot *ipso facto* be granted to a Third Power.

It has been suggested that Japan's promise to give up her concessions and abandon extraterritorial rights and privileges amounts to so many empty words, since no definite date is set. It may not be set in words, but it is by the logical consequences of other provisions in the Treaty. At the moment there are large numbers of Japanese subjects residing and carrying on business outside the limits of the Treaty and Open Ports. They are there as a consequence of Japanese military occupation, and only because of that.

As that occupation comes to end with the evacuation of Japanese troops in accordance with the Treaty provisions, it will only be natural that Article 7 of the Treaty will be implemented, if not even before. It is to be hoped that Third Powers will not be long before they take similar steps and voluntarily agree to the

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Shanghai's Machine Industry

By T. T. SCHMIDT

Many of Shanghai's machine works and foundries were destroyed during the hostilities in the latter part of 1937. However, Shanghai has more machine works and foundries now than ever before because of the rapid industrial development in this city after the war. Following the heavy slump in the value of the Chinese dollar in 1938, factory owners found it too expensive to buy foreign machines to equip their plants or to repair their damaged machines. They were forced to turn their attention to the Chinese machine works in the city. After the outbreak of hostilities in Europe in September, 1939, fewer and fewer machines were imported from Czechoslovakia, Germany, Britain, and France and the local machine works enjoyed very good business in general and a number of new plants were erected to manufacture various kinds of machines.

500 Machine Works in 1937

Prior to the outbreak of hostilities in Shanghai, it may be recalled, there were approximately 200 foundries in Shanghai, of which over 50 were located in Hongkew, 18 in the International Settlement and French Concession and the remaining ones scattered both in the eastern and western parts of Shanghai, including Siccawei and Tsaochiatu. As to machine works, there were around 500 but 80 per cent of the large plants were located in Hongkew. The following list gives the details of some of the large machine works in the city in 1937 :

Name	*Manager*	*Capitalization*	*Location*
Ta Lung	Yen Yu-tang	$500,000	Chapei
Sin Chung	Tze Ping-yuan	300,000	Chapei
Chung Yang	Fang Yung-chun	150,000	Chengju
Cheng Fu	Ku Yun-hsiang	—	Settlement
Chung Sin	King Yung-sen	150,000	Tsitsihar Road
Kai Tai	Chang Tso-hsing	—	Yangchow Road
Ya Tung	Han Yung-kwei	—	Nantao
Hwen Chiu	Wang Wan-chin	160,000	Pingliang Road
Chung Hwa	Wang Tso-tsai	50,000	Nantao
Shanghai	Ku Yueh-chiu	50,000	Tanyang Road
Chung Sing	King Yung-sen	40,000	E. Yuhang Road
Wan Chong	Chao Shiu-lin	400,000	E. Yuhang Road
Chen Lung		50,000	Wayside Road
Hwa Tung		100,000	Yalu Road
Sin Ho		65,000	Chowchiatsai Road
Kung Ching	Huang Chia-pu	100,000	Linching Road
Tsao Ya	Tsai Sen-pei	50,000	Nantac
Sin Ming	Hu Ping-wen	100,000	Wayside Road
Min Chong	Chao Shun-chien	120,000	Thorburn Road
Wan Sin Shen	Wu Wen-chien	200,000	Wayside Road
Pei Chong	Ma Chia-yung	50,000	Kunming Road
An Tai	Shen Hai-tao	60,000	Kunming Road
Chen Hsiang	Chang Lin-hsiang	50,000	Kunming Road
Min Ching	Chang Chong-lin	100,000	Chapei
Kwang Sing	Li Kuo-kwang	70,000	Tungchow Road
Hwa Tai	Kwei Yung-fu	60,000	Wayside Road
Hsiang Fung	Chow Si-ching	50,000	E. Yuhang Road
Chung Kuo		60,000	Chowchiatsai Road
Shanghai Sin Yeh	Li Tai-yuen	100,000	Pingliang Road
Hsiang Shun	Hsu Chung-chin	50,000	Chapei

Heavy Losses of Machine Works

All the above mentioned factories sustained heavy losses during the hostilities. The Sin Chung Machine works lost over $120,000 as 30 per cent of its machines and 100 tons of iron were destroyed and lost during the fighting. The Sin Ho Machine Works lost over $100,000 as the entire factory premise was burned down. The Chung Sin Machine Works was also destroyed by fire. The Sin Min Machine Works lost over $60,000 as only two-thirds of the machines were moved to Hankow during the hostilities. The Min Chong Machine Works was also destroyed by fire, sustaining a total loss of over $120,000. The Pei Chong Machine Works lost over $100,000 while the Kung Chin Machine Works lost over $300,000. The Kung Chin plant has been occupied by the Nakayāma Iron Works, a Japanese concern, since the withdrawal of Chinese troops from the vicinity of Shanghai. The Hwa Tung Machine Works lost over $100,000 as the machines were destroyed completely. The Tung Sin Machine Works lost over $50,000. Small sums were lost by other plants in Chapei, Hongkew and Nantao but no estimate is available regarding the total loss of the machine works during the hostilities.

Shanghai has 700 Machine Works Now

In the early part of 1940, Shanghai had also around 200 foundries, of which 20 of the larger plants are Chinese while two are Sino-Japanese owned and managed. The number of machine works increased to 700 from 500. Of the larger plants, 60 are Chinese, 20 are Sino-Japanese, 10 are Japanese, and six are European or American owned and managed. In addition to the work of repair of damaged machines, these factories have turned out a large variety of machines, including textile machines, cigarette-making machines, pressing machines, knitting machines, rice-grinding machines, weaving machines, printing machines, flour milling machines, silk reeling machines and Diesel engines. It must also be mentioned that small numbers of machine tools, including lathes are also produced by these works.

New Japanese Machine Works

Concentrated along Kiaochow Road, Gordon Road, Robison Road, Connaught Road, Avenue Haig, Great Western Road, and Brenan Road in the western area and Kunming Road, East Yuhang Road, Wayside Road and Pingliang Road in the eastern or Yangtszepoo area, these machine works and foundries are being kept busy because of the demand for more machines by the numerous small factories organized recently in West Shanghai. In this connection, it must be noted that a number of Chinese plants were taken over by the Japanese and are now operated by Japanese engineers. The largest Japanese plant in Shanghai is the Nakayama Works, which was reorganized from the Ho Sin Iron Works. The Japanese Kung Sin Machine Works was reorganized from the Chinese Cheng Ho, Tseng Kee and the Kung Cheng Chong foundries. The Kung Kwang Machine Works, another important Japanese concern here, was a former Chinese dockyard. The Kiangnan Dock of the Chinese Ministry of Navy was confiscated by the Japanese and is now operated by the Mitsubishi interests. Machines of the former Chinese San Pei, Hung Chong, and Ho Sin Machine Works were removed to the Kiangnan Dock by the Japanese after the occupation of Shanghai by Japanese troops.

Products of Machine Works

The machine works are not producing any standard products and they are engaged mostly in the manufacture of particular kinds of machines ordered by different factories. The Japanese machine works produce mostly textile machines, including spindles and weaving machines, while the Chinese shops are turning out silk reeling machines, textile machines, cigarette-making machines, oil-pressing machines, machine tools as well as machines used by large numbers of pharmaceutical factories recently organized in this city. The Chung Hwa Machine Works, one of the largest Chinese plants in town is producing punch presses, gas, steam, Diesel engines, centrifugal pumps and precision machine tools. The Lung Mow (formerly the Ta Lung), the Tai Li, the Whangpoo, and the Shun Ho machine works are producing spindles. The Chung Hwa, Hwa Lien, Chung Yang, Sin Yu, Ta Yu, Lien Hwa, Ho Fung, Wing Sen, Hwa Chiu, Chu Ya, Ta Fung, Sin Hung Chang, Wei Ta, An Tai, Shing Ta, Chen Chong and Ta Chong are producing weaving mills for the numerous new weaving factories newly established in Shanghai in the past two years. The Min Chong, Yao Kung Kee, Chien Yeh and the Ching Chong machine works produce printing machines while the Ko Kee, Yuan Chong, and the New China machine works turn out cigarette-making machines.

Prices of Local-made Machines

Prices of these local plants are five to six times cheaper than the imported machines. The price of each machine depends mainly upon the amount of iron and steel to be used for the manufacture of the machine. The price of one pound of iron is around 65 cents

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Clippers Over the Pacific

By COL. GEORGE W. BICKNELL

New Zealand, geographically, consists of two large and several small islands, roughly a thousand miles long, varying in width from one hundred to two hundred miles and with area of 103,934 square miles. Its population is 1,573,810.

New Zealand has a trade with the world running to over five hundred million dollars a year. And it has a harbor, at Auckland, to delight the heart and soul of any skipper, approaching either by sea or in the air by flying clipper.

Above and beyond this, New Zealand is the gateway to a young and vigorous new trade area which is located " down under " and which is known the world over as Australasia. It includes Australia along with New Zealand—also numerous South Sea Islands, large and small, and it has a trade with the world running better than two billion dollars a year.

New Zealand itself has the highest per capita foreign trade of any country in the world—Australasia as a whole ranks as the fourth most important foreign trading area for the United States.

Thus, New Zealand and the countries beyond have for years occupied the minds and energies of surface shipping men. Thus, too, they have loomed in the minds of those who are rapidly forging the links of the international air transport network and in 1939 establishment of air mail, passenger and express to New Zealand was the " new business " of Pan American Airways' Pacific Division. The task of establishment, begun as long ago as 1935 (and a subject for dreams, plans, scribbling, arguments, and tingles of anticipation for years before that), was brought to virtual completion in 1939. By the new year, Pan American had the revised new route (via Canton and Noumea, in place of the previously considered line by way of Samoa) provided with bases, had completed route survey flights, had ground and flight crews selected, trained and familiarized with the route.

This was the new business for 1939. Its accomplishment went along with the week-in and week-out operation of a 9,000-mile route to China, an operation which on November 22 passed its fourth anniversary of service with mail, on October 21 completed three years of passenger carrying.

To call 1939 Pan American's biggest year on the Pacific is stating the case statistically, but not adequately, for that statement does not hint at the breadth of the year's development. A statistical survey of the year will provide a framework, however, for delineating the broader accomplishments.

In 1939 on the route from San Francisco via Honolulu, Midway, Wake, Guam, the Philippines and (Portuguese) Macao to (British) Hongkong, in the ten months for which figures now are available, *The Transpacific Clippers* flew 674,136 route miles and transported 1,259 revenue passengers a total of 4,252,583 passenger miles.

Transpacific passengers make no hops, skips or jumps. They fly as much as 9,000 miles—or even 18,000 miles roundtrip, and the " shorter " journeys are such overnight jaunts as the 2,400 miles from California to Honolulu which ranks in time and distance covered with a transcontinental journey.

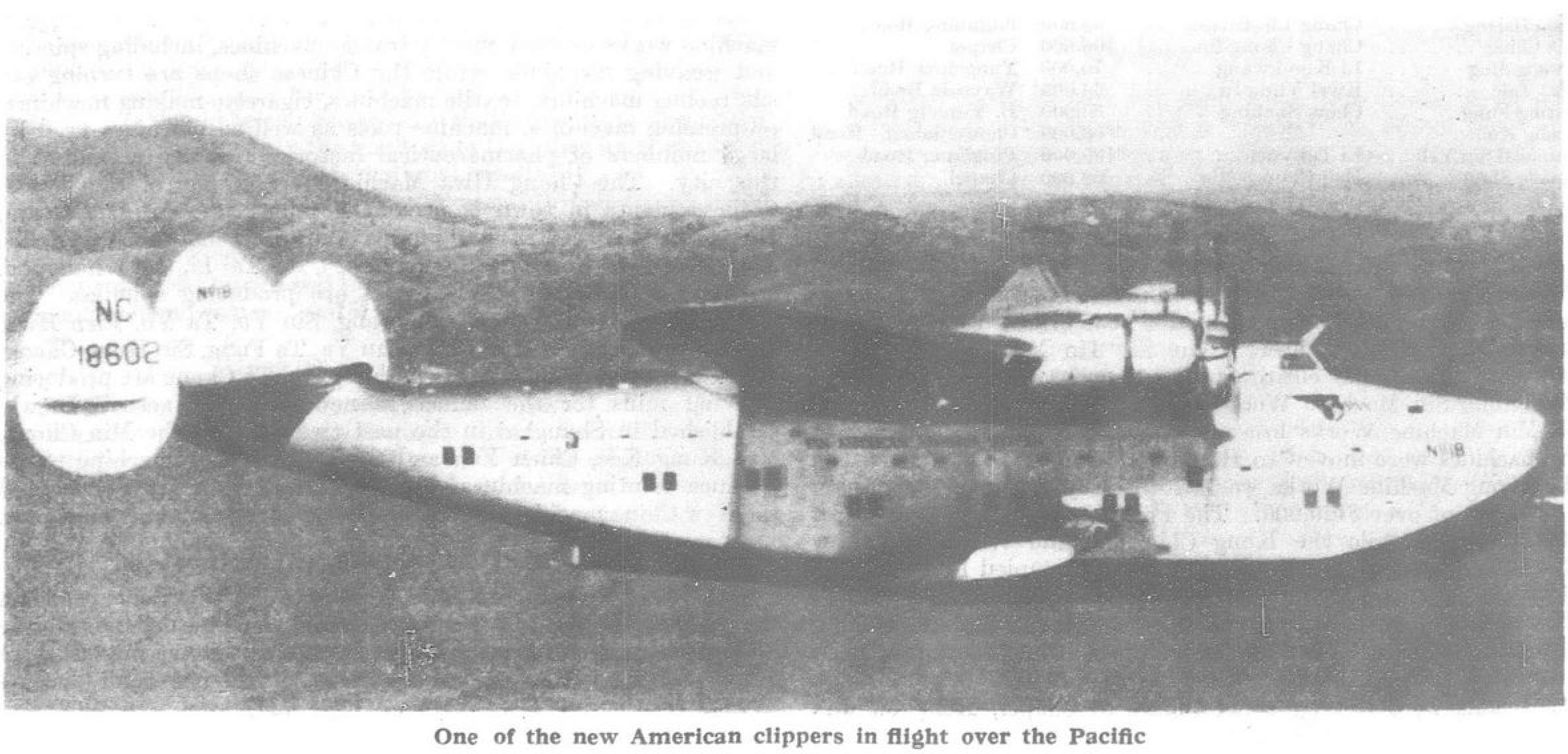
This 9,000-mile route to China includes, as a major sector of the route, the 2,400-mile flight between the United States and Honolulu. This is the longest single non-stop flight of the journey —more than that, it is the longest non-stop flight flown on commercial schedules anywhere in the world. It is a popular travel route in its own right—well worthy of consideration of itself in addition to its status as a portion of the complete transpacific route.

As a matter of air line operation and for traffic consideration it is, nevertheless, a part of the Pacific route—the longest one, requiring the greatest fuel load, imposing the greatest restrictions as to passenger space available—and at the same time offering more attractions to tourist and business travel than any other *single* sector of the route (although Manila-Hongkong is taking on an ever-increasing importance in this respect).

For this reason—the load factor obtainable on the entire route is affected by the space available and the demands for space on the California-Hawaii sector.

Another quick look at statistics will show what has been happening between California and Hawaii. On that 2,400-mile sector the Clipper in ten months of 1939 carried 698 passengers for a total of 1,677,992 passenger miles.

Trip after trip went out or arrived with every pound of revenue-space available used up to the last ounce. However, not once was a pint of the fuel reserve requirement taken away to accommodate pay load. Passengers and air express users in some cases were disappointed, but there was never even a suggestion that the five-hour reserve of fuel (amounting to over *two tons*) be shaved by so much as an ounce, regardless of the fact that everyone knew the Clipper would land with all, or nearly all of this fuel, still remaining in reserve.



One of the new American clippers in flight over the Pacific

This high load factor, besides being a source of satisfaction to the Traffic, as well as all other departments, imposes a responsibility in that it indicates a desire and need for additional service to Honolulu. The first step in this direction is now ready to be taken with projected inauguration of service to New Zealand. When this service is authorized and undertaken, it will mean an additional schedule bi-weekly to Honolulu for passengers, mail and express. Thereafter the $6,000,000 procurement program for Pan American Airways System as a whole will provide opportunity for increasing space available on the whole Pacific Division as necessary. The program includes acquisition of six new Boeing 314's similar to the California Clipper and Honolulu Clipper now in service on the Pacific along with the Martin 130's—China Clipper and Philippine Clipper. Delivery of the new 42-ton Clippers a year or so hence will increase the fleet of Clippers of the Yankee Clipper type (Boeing 314) on both the Atlantic and Pacific to twelve, enable the system to transfer Pacific Division's "smaller" Clippers elsewhere and operate with the larger Clippers exclusively on the two major oceans. Thus there will be flexibility to meet traffic demands such as the one so clearly showing itself between the United States and Honolulu.

Operating the American clipper in flight; picture shows navigator, captain, First officer, radio and engineering officers keeping vigil over safety of passengers

In December just before Christmas, a Clipper departed with an all-time record for the Pacific of 1,638 pounds of mail. On the most conservative estimating basis (40 letters to the pound which is probably much too low for mail where onion skin stationery and envelopes predominate) that means over 65,000 letters.

In fact, regular Clipper mail to the Orient has reached proportions which once applied only to philatelic mail for first flights such as the New Zealand inaugural for which the stage was set in the Pacific Division at the year's end.

Although plans for the New Zealand service date almost from the beginnings of Pan American Airways more than a decade ago, and concrete preparations from the period in 1935 when the route to the Orient was installed; while flight surveys came along in 1937 with the Sikorsky Samoan Clipper—the real job of pioneering belongs definitely to 1939.

By this year it had become clear that the new route could be a Boeing 314 operation all the way from San Francisco to New Zealand—instead of a spur-line Sikorsky S-42 operation connecting at Honolulu with the already operating North Pacific route. Thus it was possible to drop the previously considered route via Kingman Reef and Samoa with its relatively shorter jumps necessary to the smaller capacity of the S-42 and adopt the more desirable route by way of Canton Island and Noumea, New Caledonia.

Another event which contributed to the opening of the latter route was the arrival at an agreement concerning Canton Island with Great Britain (which advanced a rival claim to that of the United States for jurisdiction over the island). The two nations agreed to share the privilege of using Canton as an air transport base—shelving the matter of actual sovereignty for later discussion. Thus far, only the United States is represented by an air transport setup on the island—that base being Pan American's.

So it was that the *ss. North Haven*, veteran of the ocean airway building expedition to Midway, Wake and Guam in 1935, set out through the Golden Gate again on April 29, 1939—holds overflowing onto the deck with 314,446 pieces of equipment ranging in size and purpose from a length of pipe to a specially fitted tractor—to establish first a living community and second an ocean air transport base, on barren Canton Island. So it was, too, that other construction men journeyed to New Caledonia for a job that was similar but less difficult because New Caledonia had been a going colony for years—could supply living quarters and subsistence and much standard building equipment in its existing community. At Honolulu, of course, the base was established and operating—serving the Clippers in and out of Pearl Harbor each week inbound and outbound on the route to the Orient.

Comprehensively planned beforehand, the work advanced rapidly and by August the crew at Canton was ready to welcome a Clipper—as were those at Noumea and Auckland. All along the route harbor runways were cleared and marked, docks were ready, radio communications and direction-finding stations were operating, servicing and maintenance facilities were in order. The biggest task remaining was the Airways Inn for passengers at Canton, and this is now ready for use.

Therefore, when Captain J. H. Tilton, Pacific Division's chief pilot, led his crew of eleven aboard California Clipper to start the first flight "down under" via the Canton-Noumea route, all was in readiness for their coming and going at each point *en route*. The eleven days for a roundtrip to New Zealand and back constituted some sort of a record. However, it was not intended as such. The schedule simply was set up almost as fast as the four-day outbound four-day inbound regular service planned for New Zealand, so that the Clipper could be back at Treasure Island for a regular departure in the North Pacific service.

So it went—the preparations for a new service side by side with operation of an established one. As photographs of construction work at Canton trickled through to San Francisco, Jack Dempsey flew to Manila to referee a middleweight championship fistic encounter; the Commissary Department introduced quick-frozen foods to point up Clipper and Airways Inn menus; baby chicks shipments to Honloulu were introduced by the Air Express Department; lightning bugs rode from Manila to Honolulu to prey on snails which destroy the taro roots from which Hawaiians make their famed poi; passengers embarking at San Francisco participated in radio broadcasts from the waiting room—alighting at Honolulu they thrilled to "Aloha" characterized by sweet Hawaiian music and dancing, and fragrant flower leis.

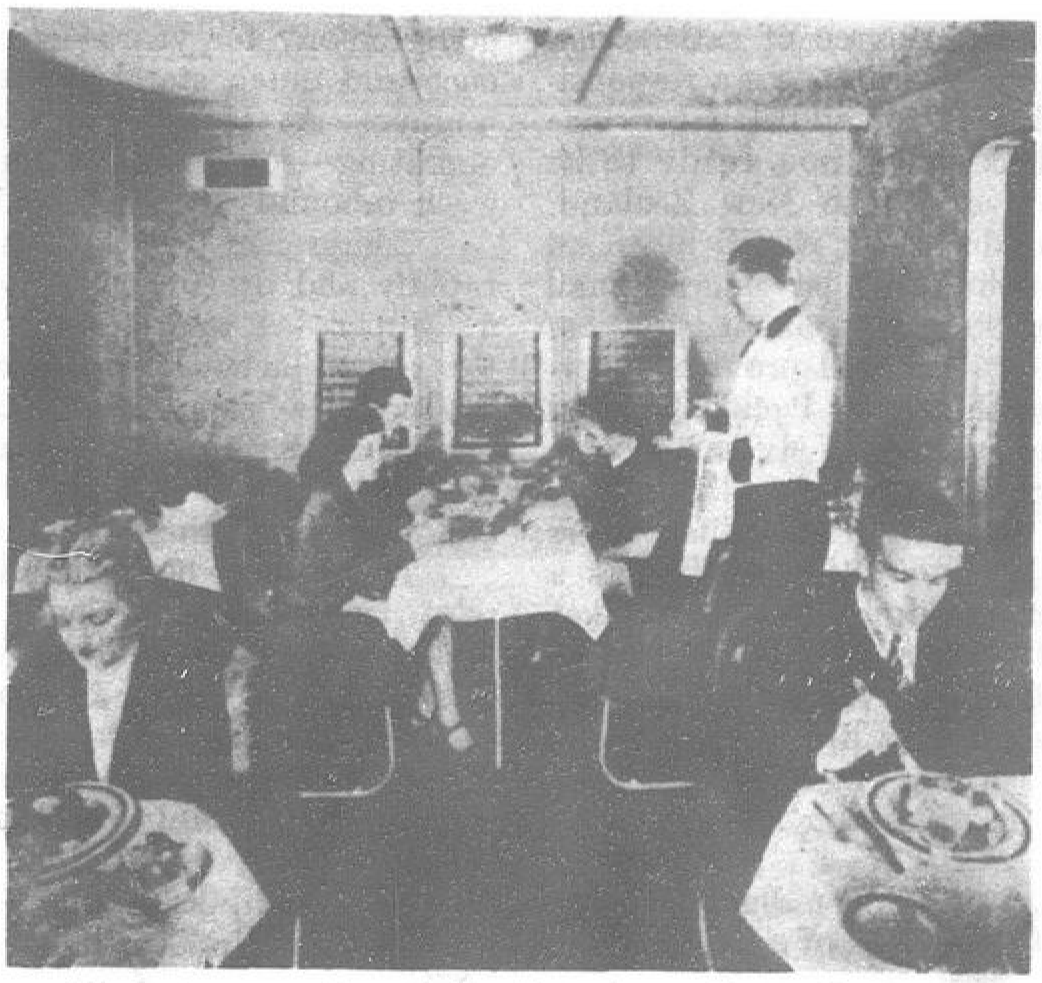
Spectacularities of the year were the three christening parties for California Clipper, Honolulu Clipper and American Clipper. In Honolulu Miss Helen Poindexter, daughter of Hawaii's governor, christened the Honolulu Clipper. Instead of champagne and in the ancient Hawaiian manner, Miss Poindexter used coconut milk—she dipped a palm frond in the milk and touched it to the bow as she pronounced the new name.

A new scale of mail payments approved by the Civil Aeronautics Authority in September effected a 67½ per cent increase over the rates formerly paid. The order provided a rate of payment of $3.35 per mile for the transportation of up to 1,000 pounds of mail in each direction over the route to the Philippines, plus a lump payment of $4,950 for each trip across the China Sea between Manila and Macao or Hongkong. Formerly the rate was $2.00 a mile for transportation of up to 800 pounds of mail per trip over the same route.

The order authorizes the company to retain all payments made by foreign governments for transportation of air mail—under the old rates this revenue was deductible from the company's mail pay by the United States. On a poundage basis the company receives $25.35 per pound for mail transported from China to San Francisco.

For loads of U.S. mail over the 1,000 pounds which is the basis of the $3.35 per mile rate, the company receives mail pay at the rate of $1.00 per pound per 1,000 miles.

The new rates will pay Pan American $2,888,398 for approximately 50 trips a year as compared with $1,649,200 for an equivalent number of trips under the old rate. They are retroactive to April 1, to include the period when the Boeing 314's California Clipper and Honolulu were in service on the Pacific and although experience thereunder is limited it is anticipated that the Pacific Division no longer will have to cope with the problem of working against a huge yearly deficit as has been its lot heretofore.



Dining room aboard the American clipper in flight

To-day the transpacific Clipper has become an honored institution and one of which the citizens are possessively proud—in San Francisco—in Honolulu—in Guam, in Manila, in Macao and Hongkong. At Midway and Wake, of course, the Clippers are the reason and reward for existence, with the only competition coming from the cable relay station at Midway.

In the past year this status as a tradition in the making is more evident than ever before. The interest has ceased to be an 8-column front page streamer headline sensation on everybody's tongue to-day—subject to being ignored to-morrow. Now it is an accepted and much appreciated fact—the kind of thing that moves a Mission Street columnist to observe in the midst of his ruminatings " The Clipper heading toward the Golden Gate . . . . Jack Dempsey is up there on his way to Manila."

The year 1940 sees transpacific Clipper service accepted for what it is—leisurely, comfortable transportation which quietly and efficiently lops off about 80 per cent from travel time—conducted according to the most conservative operating standards that the transportation business ever knew—and accepted there as on so substantial a basis that the real problem consists of providing space-weight to accommodate the mail, passengers and express seeking to make use of the service.

Shanghai's Machinery Industry

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as against 50 cents in the early part of May, while one pound of steel is around $3. In other words, a machine weighing 3,000 pounds require about 2,400 pounds of iron and 600 pounds of steel will be sold for a sum of $3,000, including the cost of production and profit. A spindle frame costs around $170 now as against $30 in the middle of July, 1937. The price of a spindle is $4.50 while the price before the outbreak of hostilities was only $1.50. The price of a lathe four feet long in July, 1937 was around $200 but it is over $1,000 now.

Supply of Iron and Steel

The main problem of the local machine works and foundries is the supply of iron and steel. Prior to the outbreak of hostilities, iron was supplied by the Luhokow Iron Mines and only small quantities of iron and steel were imported from Japan, the United States and India. Annual consumption of iron and steel in those days was around 350,000 to 400,000 quintals. After the outbreak of hostilities, when no iron and steel were sent here from the Luhokow mines, Shanghai depended entirely on the supply of foreign iron and steel. Considerable amounts of scrap-iron collected from the occupied areas are also being used by the local machine works as raw materials. In 1937, it may be noted, Shanghai imported 320,000 quintals of iron, of which about 50 per cent came from the United States and India. In 1938, Shanghai imported only 34,000 quintals, of which 76 per cent came from the United States and 9 per cent from India. In 1939, Shanghai imported 77,000 quintals of iron, of which 45 per cent came from the United States and over 20 per cent from India. At present, Shanghai machine works and foundries consume about 60,000 pounds of iron daily and the annual consumption is therefore around 22,000,000 pounds or about 200,000 quintals and more foreign iron will be imported before the end of this year.

Decreasing Import of Foreign Machinery

That more and more the local factories are depending upon these machine works and foundries for the supply of their machines is proved by the continuous decrease of the import of foreign machines. Shanghai's import of machinery dropped from 1,290,000 customs gold units in August to 499,502 customs gold units in September of this year. It is 200,000 customs gold units below the average monthly import of machinery in the first nine months of this year. The average monthly import was around 700,000 customs gold units. Imports of British machinery alone declined by 500,000 customs gold units from August to September. However, Britain still holds the first place in local imports of foreign machinery. September imports of British machinery was valued at 295,750 customs gold units, representing 60 per cent of all Shanghai imports. Japan exported to Shanghai during the month 22 per cent, the United States exported 17 per cent and Germany 9 per cent of machinery to Shanghai in the month. Of the different kinds of machines imported in September, textile machines remain the most important item, showing the development of the textile industry in this city. Total value of textile machines imported in September was 180,000 customs gold units, representing 36 per cent of all machinery imports. Electric machinery accounted for 8 per cent and machine tools for 4.5. per cent.

Business in 1939 Total $10,000,000

The good business condition of these machine works and foundries can be proved further by the volume of trade done by these plants in 1939. During the year, total business of the foundries was over $30,000,000 and that of the machine works was over $60,000,000 or a total of $100,000,000, of which about 30 per cent was net profits. In 1930, total business of machine works and foundries was valued at $50,000,000, and in 1937 at $68,000,000. Well-informed circles estimate that the total business of these plants in 1940 will exceed the $10,000,000 mark, despite the industrial depression following May, because the plants enjoyed very good business in the first six months of this year.

The Sino-Japanese Treaty

(Continued from page 426)

immediate retrocession of their concessions and the immediate abolition of their extraterritorial and extra-legal privileges which, it will be seen, will soon prove to be a burdensome liability rather than a desirable advantage.

By the Treaty China obtains terms for the immediate present fully in accord with those stipulated by the Wuchang Emergency Congress of the Kuominatng of April, 1938. But it does more than that. It opens up a future in which an independent and prosperous China, freed from the shackles of the Unequal Treaties, will be able to play her proper part in the history of the Far East in association with her great neighbor Japan on terms of friendship and equality.

By refusing to co-operate with President Wang Ching-wei in bringing about speedy peace General Chiang Kai-shek is only prolonging the miseries and disasters of a war which has now become futile and unnecessary, thus robbing the Chinese people of a more speedy realization of that future.

Gold and Its Place in Japanese History

(Bulletin of The South Seas Association)

EVERY country in the world, at peace or at war, depends on its gold reserves as the final means of international payments. Economic and political considerations of each nation in its foreign trade relations are dominated now by the idea of self-sufficiency. There was a time not long ago when every nation, in good faith, was able to purchase goods largely on credit and pay for them with its own visible an invisible exports, resorting to gold only when the balance sheet showed an adverse balance. Under such circumstances, as one of the feasible measures to maintain equilibrium in international accounts while importing adequate amounts of goods needed, they have been obliged to adopt a barter or quota system for foreign trade. This indeed claims to be one of the most prominent phenomena characterizing international economic relations of to-day.

When a nation engages in unilateral trade, exporting its goods to another and importing nothing in exchange, or *vice versa*, there can be no basis for barter arrangements between the two and their accounts must be settled in gold. The gold then is used to pay for needed goods purchased from third countries. The extreme complexity of international trade to-day supports the importance of gold, despite the widespread adoption of the barter system.

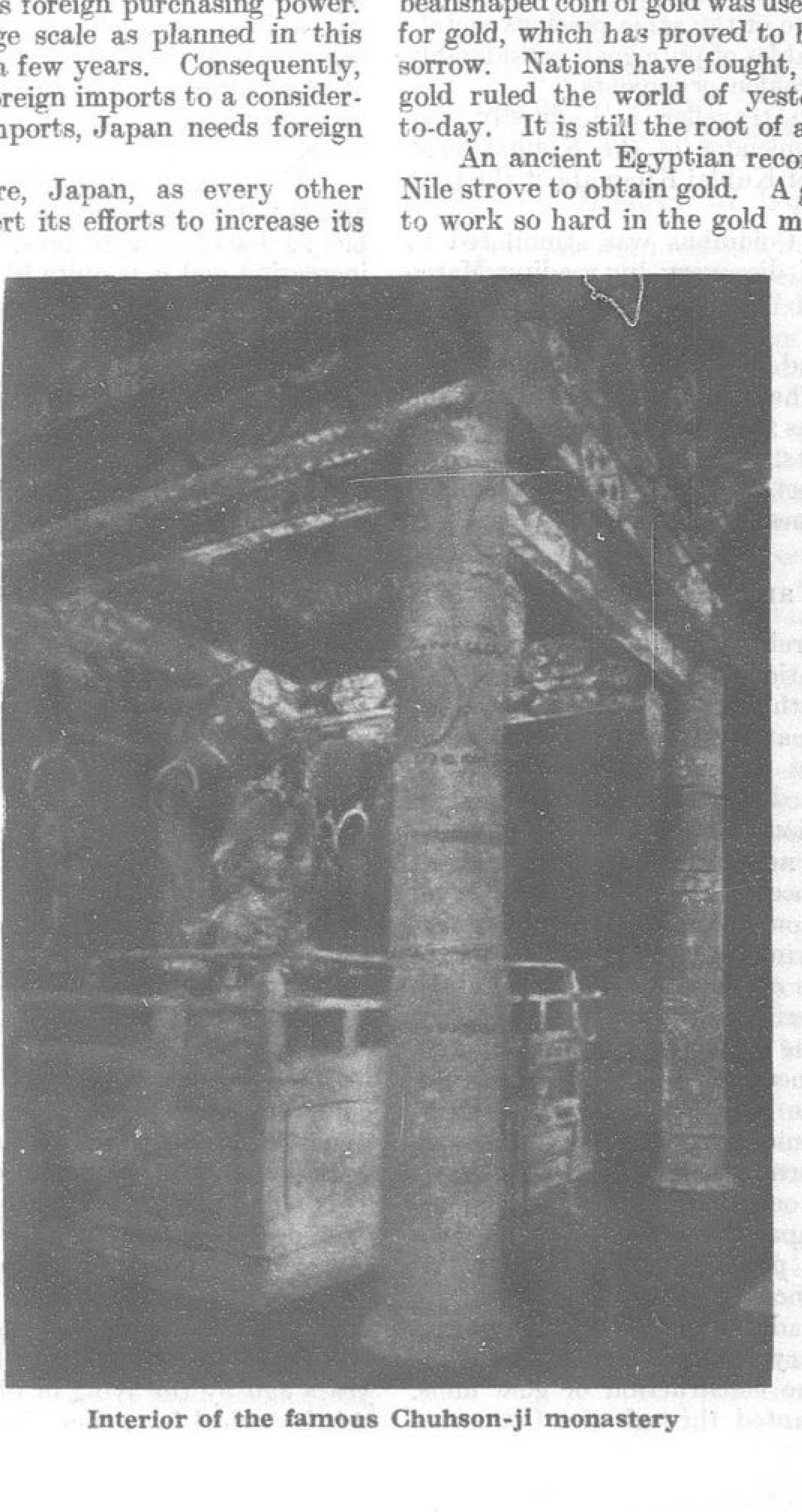
Japan has been devoting all its energies since the start of the China Incident to expand productive power to meet the drain of wartime consumption and to enlarge its foreign purchasing power. Productivity expansion on such a large scale as planned in this Japan, however, cannot be realized in a few years. Consequently, the country has had to depend on its foreign imports to a considerable extent. And to pay for these imports, Japan needs foreign exchange or domestic gold.

Willingly or unwillingly, therefore, Japan, as every other country in the world to-day, must exert its efforts to increase its exports to foreign countries and, at the same time, strive to bring up gold production within the country.

Gold is woven into every pattern of mankind's history. The bright yellow metal has as irresistibly drawn the savage to worship it as the modern girl who stops involuntarily to admire ornaments fashioned out of it.

It is only natural that this striking, rare element should have been one of the first metals to attract the attention of mankind. Primitive peoples fashioned idols and images of gold for worship or decorated interiors of temples and shrines with gold. Gold, from early times, always has been associated with religious worship and has always been regarded with a deep reverence, untainted by materialistic considerations. This reverence of the ancient peoples towards gold is frequently found in old Egyptian legends and Greek myths.

The Old Testament, in describing the splendours of Heaven, declares that Heaven has a corridor of brilliant gold. A passage in the Sukhavati-vyuha mentions a Buddhist paradise with walls of resplendent gold on all sides. The fact that these two ancient books of religion describe the happiness of the world beyond in terms of gold suggests that from earliest times man has been dominated by the idea that gold is and represents the greatest happiness to mankind.



Interior of the famous Chuhson-ji monastery

Gold exerted a far-reaching influence in China, in no less degree than in other countries, on the Chinese people who sought their elixir of life in this precious metal in ancient times.

Gold has come to be linked with the progress of civilization and to be inseparably bound up with the economic life of man for a number of reasons. It is unsurpassed as a medium of exchange for it is rare enough to be eagerly sought after and because it most closely meets the requirements for an ideal medium of exchange. It has the qualifications of being acceptable to all peoples, including portability, durability, homogeneity, divisibility, stability of value and cognizability. With all its beauty gold surpasses all other metals in malleability and ductility. It can be finely beaten to a .001 mm thickness, and a single gram can be drawn into a thin strand of wire two miles long.

A stack of a thousand sheets of finely beaten gold foil is not as thick as the thin foil usually used for wrapping cigarettes. Gold is insoluble in most acids. Because of its ductile and malleable properties and its property of being insoluble in most acids, beautiful elaborate ornaments as well as strictly practical utensils have been fashioned from gold. Its qualities as a medium of exchange early attracted nations to its use in trade and commerce.

Gold gradually experienced a transition from its prior sacred functions to use in ordinary purposes. As early as 700 B.C. a beanshaped coin of gold was used in Lydia. People came to struggle for gold, which has proved to be at once a source of happiness and sorrow. Nations have fought, risen and fallen on its account. As gold ruled the world of yesterday so it governs everyone's life to-day. It is still the root of all good and all evil.

An ancient Egyptian record reveals how the nation along the Nile strove to obtain gold. A great number of laborers were forced to work so hard in the gold mines of the Empire around 60 B.C. that they wished they were killed rather than to continue their relentless tasks. King Solomon, at the height of his reign, is said to have erected two idols of pure gold twenty cubits in height, or about 12 meters, and also built an altar overlaid with pure gold. The amount of gold used for these treasures was estimated to be 666 talents, or about 60 tons in weight. But behind the magnificence of King Solomon it should be remembered that there were hard-driven laborers in the vast deserts of Arabia and Persia and in the river region of Armenia who were engaged in the arduous task of sifting many tons of ore for that gold.

It is a remarkable fact in the history of Japan that towards the end of the 12th century the city of Hiraizumi, in present Iwate Prefecture, reached a high cultural level which almost surpassed, for a brief period, the greatness of Kyoto, the site of the country's capital, and Kamakura, the seat of the shogun's administration. The sudden rise of this unknown tiny northern town to its position of eminence as a cultural center largely was due to an abundant output of alluvial gold from the Kitakami range which runs north and south through the district.

The powerful Kiyohara clan which ruled the district amassed great wealth through control of the gold fields. The Kiyoharas erected the famous Konjiki-do, or Golden Hall, in the compound of the Chusonji monastery at Hiraizumi, whose pillars, ceilings and panels were either overlaid with pure gold or lavishly covered with gold leaf.

The name of Yoshitsune Minamoto is linked intimately with the Kiyohara clan. This famous Japanese warrior, whose career is one of the most romantic in Japanese history, was spared as a child by the Taira clan when the Minamoto clan was defeated. Yoshitsune found shelter with the Kiyohara family for many years. In the struggle for supremacy between the Genji, or Minamoto, and the Heike, or Taira clans, Yoshitsune led an army into the field for his eldest brother, Yoritomo, and won battle after battle. The Taira clan was routed finally by Yoshitsune paving the way for the establishment of the government at Kamakura under Yoritomo.

Yoshitsune's successes served only to arouse Yoritomo's jealousy. Dogged by Yoritomo's followers who sought to capture and kill him and refused entrance at Kamakura, Yoshitsune turned away and made his way back to Hiraizumi, where he had been sheltered in his boyhood. But before long he was attacked by a great army raised by Yoritomo, who destroyed his brother and at the same time satisfied his ambitions to gain possession of the rich gold mines of the district. Yoshitsune and his loyal vassal and inseparable companion, Benkei, died tragic deaths at a small stronghold at Koromogawa.

The first allusion to the existence of Japan by an European writer is contained in the chronicles of his travels in the Far East written by Marco Polo, who visited China in the 13th century. His tale mentions that there is gold in abundance in "Zipangu," or Japan, and that the gold comes from inexhaustible sources and says, "The entire roof of the sovereign's palace is covered with a plating of gold, in the same manner as Europeans cover houses with lead: the ceilings of the halls are of the same precious metal: many small apartments have small tables of pure gold, considerably thick, and the windows, also have golden ornaments."

This account by the Venetian traveller undoubtedly was influenced by the rumors about the splendor of the Konjiki-do at Hiraizumi, which reached the court of Kublai Khan about the time of Marco Polo's visit there.

It is common knowledge that Columbus was stimulated to undertake his westward voyages of discovery by reading Marco Polo's travels, and a desire to reach "Zipangu," or the island of gold, by sailing westward.

The lust for gold is universal and has been a dominant factor in all periods of man's history. The search for gold drove the Spaniards westward to the Americas to explore and occupy the North and South American continents.

It is a historically noteworthy fact that most famous medieval warriors in Japan possessed rich mines as stated later.

Modern States and Gold

Life of mankind is inseparably related with gold, if not completely governed by it, and their relations have been growing both in extent and far-reachingness with the passing of years. On the life of man, be he an individual or a nation, has come this precious metal increasingly to have a most important bearing, social, economic, as well as political. Needless to say that modern economic life, national or international, hinges on gold, which serves as the medium of settlement not only between individuals but also nations. But the importance of gold as such has never before been felt so acutely by all nations in the world as at present. As mention was already made, lacking natural resources, Japan under the wartime situation depends on importation from foreign countries for a large number of materials with an adverse balance of trade as a consequence. Under the circumstances, Japan must pay for its purchases in gold or seek means by which an equilibrium in its international accounts can be maintained. Promotion of overseas trade and the sale of its merchant marine service are two ways in which the adverse international balance can be reduced. But it is impossible to rely on these two measures alone, however effective they may be. Japan is putting forth its best efforts to secure an increase in the production of domestic gold in its territories as a third way to balance international payments.

The Japanese Government has adopted a number of policies to encourage the gold mining industry such as the subsidizing of gold production, prospecting and the construction of gold mills. These subsidies which are being granted through the Commerce and Industry Ministry, in principle, cover about half of the actual expenditures required in each individual case. Government subsidies have been increasing in recent years both in the number of grants and in the number of applications for Government help. The Gold Production Law was promulgated in August, 1937, which placed all branches of the gold mining industry under control in order to bring about an increase in the production of gold. The Japan Gold Production Promotion Company was organized under provisions of the Gold Production Law, in September, 1938, as a special semi-governmental agency with the principal function of facilitating the supply of funds to the gold mining industries and of undertaking the promotion of gold production. The company has directed its efforts to increase gold production at improvements in the refining of lean ores, control of mining operations and the management of small gold mines.

Other governmental agencies are co-operating with the new company and are making substantial contributions to the promotion of gold production in one way or another. Railway freight rates have been reduced for gold ores by the Railway Ministry, analysing fees for gold ores have been reduced by one-half at the bureau for supervising mines and at the Government mint. Other aids to gold production include the training of gold miners and subsidies for communications and electric power supply facilities for the gold mining industry. Recent gold production has shown a substantial increase over preceding years from the encouragement and definite aids to speed up the industry.

A basic gold problem faced by the nation is: What is the present condition of gold mines in Japan and what is their future prospects? Some people hold that there is no room for further prospecting from the belief that possible gold areas are known and are being exploited. But in reality, there are still gold deposits which have escaped notice and the fact that virgin gold mines have been discovered recently offers encouragement for the future of the nation's gold-mining industry. Future developments will be proportional to the efforts expended in the search for new gold fields.

The progress in mining and metallurgical technique and the higher purchasing price for gold have made it commercially profitable to handle leaner ores. The tendency to handle lean ores is increasing and it is quite likely that the production of gold will be accelerated to a considerable extent by conducting the business on a mass production basis.

The treatment of poor ores more than repays with the use of modern gold extraction methods. The Sado gold mine, on an island off the coast of Niigata Prefecture, is a case in point. Up to 1924 ores which contained .000007 grams of gold per metric ton were milled at this gold mine. To-day gold ores containing but .000003 grams per metric ton are being profitably handled, and the sands, indifferently trampled by the islanders, now furnish an almost inexhaustible source of gold. It may well be said that the town of Aikawa, located in the center of the mining area, stands on a huge deposit of gold.

Many people may be apprehensive that gold mines in Japan soon will be exhausted in the not too distant future: actually production has been increasing every year with the steady progress in mining and metallurgical technique.

Gold Mining in Chosen

The contribution of gold by Chosen, or Korea, to Japan's coffers is worthy of special mention. This peninsula has been famous as a gold producing region from early times and visitors to Keijo, the capital of Chosen, can see gold crowns and personal ornaments unearthed more than 2,000 years ago. These ancient finds suggest a much earlier origin of gold mining in Chosen than in Japan. The peninsula has always enjoyed an abundance of gold, but when it came under the control of successive Chinese dynasties of Sui, T'ang, Sung, Yuan and Ming, the kings of Chosen were forced to pay enormous gold tributes to the Chinese emperors. This wretched condition was brought to an end by a clever ruler who declined to meet the preposterous Chinese demands on the pretext that his country had ceased to yield gold. At the same time, he bravely ordered all the gold mines in the country to shut down. Gold mining subsequently was suspended for about 400 years. The abandoned gold mines were re-opened about 100 years ago by the King of Chosen, the father of Prince Ri. From this historical fact, there is good reason to believe that many rich gold mines still await re-exploitation. A single incident substantiates the theory that there still is much unmined gold in the mountains of Chosen. A vein of gold ore was struck in the neighborhood of Keijo a number of years ago when a tunnel was being driven through the mountains.

When gold mining was resumed in Chosen, the Government, for a time, established a mining administration, but soon the entire gold mining concessions were turned over to foreign entrepreneurs, the Government feeling that it was more profitable to have the mines run by foreigners. These concessions, however, were purchased by the Japan Mining Industry Company some years ago which began a new period in gold mining history in Chosen. With Japanese purchase of the concessions, the gold production has been steadily increasing. To-day the gold output has reached nearly 20 times the amount of ten years ago.

Gold ores mined in Chosen to-day generally range from 25 to 30 grams per metric ton, or from .000025 to .000030, comparing with gold ores in Japan with gold content of from five to ten grams. Of all Chosen with 223 million ares, 20 million ares, or one-eleventh of the country, is gold producing territory. This fact eloquently speaks for the future of the gold mining industry in Chosen.

Rich Gold Deposits in Taiwan

Taiwan, or Formosa, abounds in natural resources. Almost all rivers and valleys in this island have alluvial gold in them. The original source of this gold until recently had been a mystery which was solved when the Government-General of Taiwan pushed by the exigencies of the current Incident sent out geologists and mining engineers to locate the gold bearing areas. In October of last year, a survey party headed by Mr. Ogasawara of the industrial development bureau of the Government-General located large deposits of alluvial gold in the terraces forming the upper reaches of the Takkiri ravine, in the eastern part of the island. Gold nuggets of 92 per cent purity were discovered. Ten grams of gold were recovered, on the average, in six cubic meters of ore bearing sands. Further investigations by the party have proved that alluvial gold estimated at 1,000 million yen is deposited in the terraces in an area which extends for several kilometers.

The discovery of the gold was immediately reported to the Japanese Government by the Taiwan Government-General, creating a great sensation in Japan.

The discovery was considered significant for it throws light on the enigma of gold in the Taiwan rivers. The upper reaches of 12 ravines and 29 streams in the southeastern district and 18 ravines and rivers in the northwestern district can be assumed to contain areas rich in placer gold.

The Taiwan Government-General on November 13, last, laid claim to mining rights in 165 million ares, or about two-thirds of the whole island. The investigations have proved that the source of gold is not gold veins or lodes but rich placers in the upper reaches of the rivers. The gold bearing terraces represent beds of ancient rivers or lake bottoms with the gold concentrated in them which previously had been disseminated through an ancient mountain range. The gold has been concentrated by the gradual eroding of the highlands.

The Japanese Government last December dispatched a survey party headed by Dr. Sano, a professor of Tokyo Imperial University, to re-examine the gold areas. The party's investigations have proved the presence of gold in the Doyon terrace, 750 meters above sea level and 360 meters higher than the bottom of a ravine, and at two points in the Takkiri area. Gold nuggets of 90 per cent purity and 7 to 12 grams of gold were obtained from six meters of gold sands in these areas, confirming Mr. Ogasawara's previous investigations. Dr. Sano's findings on the western side of the Doyon terrace proved to be rather disappointing making uncertain the actual extent of the gold area. But when one considers that investigations of gold deposits and successful mining enterprises require years of efforts, there is no reason to be disappointed in the future prospects of the Takkiri area.

The Taiwan Gold Production Company has been formed through the efforts of the Taiwan Government-General, with a capitalization of 20 million yen. It is expected that the newly organized company will be able to work the known gold deposits profitably. The company already has decided to build roads to the gold bearing areas and to erect two power stations.

The late Dr. Jisaburo Yokobori, who was an authority on mining in Taiwan, more than 20 years ago explored the Takkiri fields. This great pioneer also contributed greatly to the development of the mineral resources of this country. After a number of field trips into the mountainous areas of Taiwan, Dr. Yokobori published a report in which he estimated that there was about 4,000 million yen of alluvial gold in the eastern part of the island. Although his report was dismissed as an exaggeration by his contemporaries, his estimations have now been proved true. It is a well-known proposition of this great scientist that the triangular area within a line connecting the Kurile Islands, Taiwan and Chosen forms the gold producing areas of the Japanese Empire.

Metallurgical Technique of Gold

The most primitive way to separate gold is by the gravity process with the use of a riffle board. Finely ground gold ore or gold bearing sands are thrown or shoveled into the riffle board over which a current of water flows continually. The flow of water is just fast enough to carry away the lighter debris. The gold being far heavier sinks to the bottom and catches on the riffles. Ores whose precious metals can be readily extracted after crushing by amalgamation with quick-silver are termed free-milling ores. The gold and the mercury are separated by the volatile properties of mercury, the mercury being driven off by heating. Refactory ores, ores containing the gold as tellurides or which contain sulphides of the metal, may first be roasted and the gold extracted by leaching with cyanide or chlorine solutions.

When the extraction of gold from poor ores is considered, it is a mathematical problem whether the cost of extraction will be compensated by the value of the metal recovered. This is a problem of greatest importance in this country for a large part of Japanese gold production depends upon it. For this reason much attention has been directed in the recent improvements in the flotation process which far surpasses the cyanide process for gold extraction. The extraction of gold from very lean ores at comparatively low cost has been made possible by this method, for ores hitherto considered valueless can be worked over by this method profitably. Minutely ground gold is floated off with the acid of vegetable oils and certain chemicals.

History of Gold Mining in Japan

Gold was not produced in ancient Japan but was first imported from Korea, where this precious metal was discovered some 2,600 years ago. Gold crowns and some other gold ornaments, which were brought to Japan from Korea in the beginning of the 2nd century, are preserved to-day in the Tokyo Imperial Museum. Influenced by these presents from Korea, the Imperial Court seems to have greatly encouraged exploration for gold in this country. In response to the Imperial desire, the province of Tsushima, an island in the Japan Sea, dedicated gold produced in the island to the Court at the end of the 7th century, but later it was found out that this gold really had come from Korea. It was not, however, very long before gold was for the first time obtained in the country of Toda in the province of Mutsu (present Miyagi Prefecture) in A.D. 708 in the Nara Period.

The whole nation celebrated this historical event, when the Emperor Shomu (A.D. 724-749) dedicated this gold to the Great Buddha then erected at Nara. The discovery of alluvial deposits in Mutsu and the subsequent development of many other gold mines in Japan must be given to the natives of Kudara of Korea, who had become Japanese subjects. In course of time the province of Mutsu became the greatest gold-mining district in the country, and Hiraizumi, as above stated, in the center of the gold mining area, attained its great prosperity as a consequence of the great flow of gold from the gold mines in its neighborhood. The Kiyohara family, by placing the districts under its control, developed a brilliant culture centering around Hiraizumi, and made it a rule to dedicate yearly gifts of a large amount of gold to the Imperial Court at Kyoto.

Down in the age of civil wars, when warriors struggled for supremacy, it was very natural that they strove strenously to secure much gold, the sinews of war. But alluvial gold ceasing to be the most prolific source of gold, their attention was turned to mountain gold. Of all the war-lords of the age Kenshin Uyesugi of Echigo was most successful in seizing gold, by obtaining alluvial gold in the Sado Island and operating the Tsuruko Gold Mine. Another great hero, Shingen Takeda of Kai (present Yamanashi Prefecture), who fought Kenshin at the historic battle of Kawana-

(Continued on page 447)

The Chenderoh Power Station and Dam

By Captain H. DANE, A.M.I.E.E.

(Journal of The Engineering Association of Malaya)

THE following description is in no sense intended to be complete, nor is it intended to offer any original comment, but the facts are taken from the booklet presenting some technical features which was published by the Consulting Engineers, Messrs. Rendel, Palmer & Tritton.

The surveys on which the contract for the engineering work was based were made in 1926, preliminary field work started at the beginning of 1927, concrete work was begun in April 1928, and the Station was put into commercial operation in August 1930.

The Consulting Engineers were Messrs. Rendel, Palmer & Tritton in association with The Vattenbyggnadsbyran, Stockholm.

To give some conception of the size of the work involved, the following figures may be of interest :—

(*a*) The abutment of the left bank, 120-ft. in length.
(*b*) Spillway over the left bank of the river, 434-ft. in length.
(*c*) Spillway over the Sector Gate section, including the side piers, 125-ft. in length.
(*d*) Spillway over the right part of the river, 245-ft. 3-in. in length.
(*e*) Intake, 135-ft. in length.
(*f*) Abutment on the right bank, 231-ft. 3-in. in length.

The left bank abutment is connected to the bank by 30-ft. long concrete sheeting, and an additional steel sheet piling driven into the ground. The abutment on the right bank is similarly connected by 50-ft. long concrete sheeting and additional sheet piling.

The principal quantities are as follows in round figures :—

CONCRETE

Dam, mass concrete sections	39,700	cu. yds.
Dam reinforced concrete section ..	74,300	,,
Intake	12,300	,,
Power House	15,400	,,
Miscellaneous	4,300	,,
	146,000	,,
Reinforcement	5,700	tons
Shuttering..	125,000	sq. yds.

The general design of the dam was safely to pass a flood of 470,000 cusecs, in which case the tail water level below the dam was calculated to rise about 60-ft. above the low water level in the river. The drainage area of the Perak River at Chenderoh is about 2,340 square miles and the mean flow of the river was calculated at 7,500 cusecs. The gross available head of the Power Station amounts to about 60-ft., all of which was created by damming the river by means of the head works, and forming a lake with an area of some five square miles.

The structural design is known as an Ambursen type dam.

The abutments on both banks are solid gravity concrete dams with the crest at El. 218-ft. above m.s.l., the base of the gravity sections are narrower than with the Ambursen Sections, and the choice was made so as to avoid as far as possible excavation in the soft material of the banks.

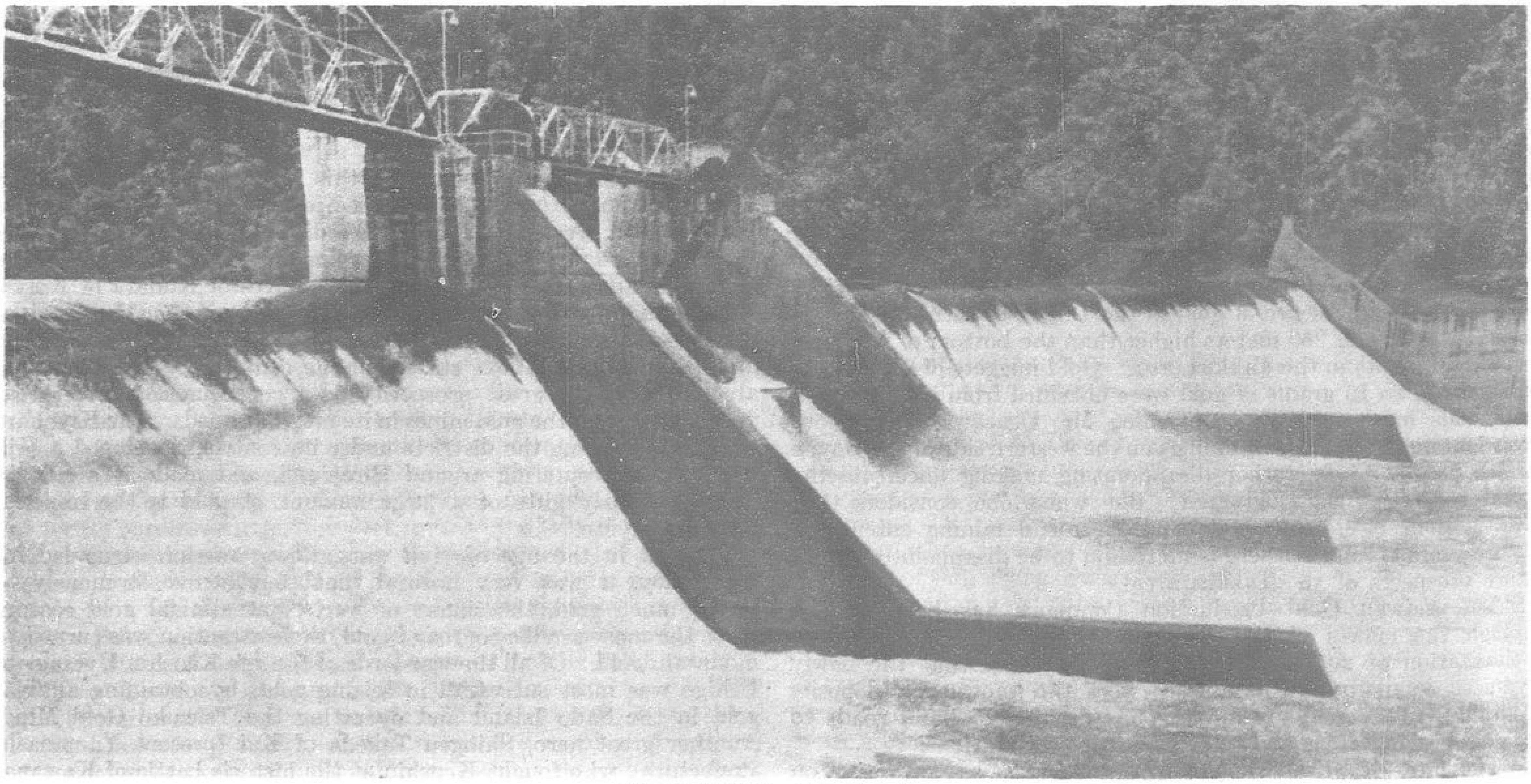
The piers at the break points of the dam are in solid concrete, decided upon chiefly to simplify construction, and as regards the piers at the Sector Gate dam, the mass concrete was also of value as an additional weight to stand against the lateral water pressure to which these piers would be subjected under certain conditions of flow through the Sector Gate opening.

There are two inspection galleries, one at rock level, and another at El. 174-ft. above m.s.l.

The abutment and the solid spillway were built in sections of about 30-ft. in length separated by permanent construction joints which extend all the way down to the rock, the surface of the joints were painted with asphalt to prevent bondage, and were sealed at the upstream face by means of a bitumen protected metal sheet. As an additional measure for the improvement of water-tightness, the face of the joints behind the metal stop was provided with a number of tongues and grooves solid in the concrete.

In general the solid dam sections were not reinforced except in a few portions such as between the inspection galleries and the upstream face and around the inspection galleries.

The buttresses of the whole dam are spaced 18-ft. centers, and are set in trenches excavated down to sound rock, and provided with steps so as to increase the security of the dam against sliding.



The P.R.H.E.—Chenderoh

The thickness of the buttresses is 2-ft. 4-in. at the top and increases uniformly to 3-ft. at the bottom.

The buttresses are tied together two and two by a number of transverse struts in every second panel some of which are considerably increased in cross section both ways by means of bevels towards the buttresses, so as to form, together with the two buttresses, a stable but flexible structural system of the so-called "Vierendeel" type.

On the upstream side of the dam the buttresses simply support the slabs, but on the downstream side the slabs are secured in grooves in the buttress heads in order to prevent dislocation.

The main inspection gallery also serves to supply air to prevent a vacuum from being formed inside the dam, and thereby increasing the loading. This circulation of air is also an advantage to the structure as effecting a drying out of the downstream face of the upstream slabs, thus improving the durability of the concrete.

Tests of the conditions of flow over the dam were made on a 36th. scale model set in a glass flume, and as a result of these tests the spillway curve was arrived at.

One of the most interesting features is the hollow spillway over the left part of the river which has been provided with nine bottom outlets (Taintor Gates). The upper portion of this section is similar to that of the normal spillway dam, but to prevent lateral stresses due to a difference in water levels between adjacent bays, when water is discharged through the Taintor Gates, diaphragms will be noticed in those bays in which Taintor Gates are situated. No theoretical calculations could solve this problem, and no precedents were known, therefore the problem was studied by means of hydraulic model tests. With these tests it was found that if one outlet was discharging at full gate opening with high water both upstream and downstream, an average differential pressure on the buttresses corresponding to no less than 20-ft. or even more was present. To design the buttresses for such lateral loading was out of the question financially, therefore the diaphragm arrangement was adopted, and on model tests proved to be a great success. The experiments indicated that with this arrangement the differential pressure on the buttresses would not exceed 6-ft. under any possible conditions. A further reduction of the differential pressure was effected by making openings in the buttresses just above the diaphragms between adjacent bays.

As the rock below the dam was considered incapable of withstanding the destructive forces of swiftly moving water, the riverbed below the dam was protected by aprons for some distance. These aprons are of reinforced concrete of varying thickness, and retarding walls to prevent scouring extend all along the downstream side of the dam. Special provision against damage needed to be made below the Sector or Flood Gate portion of the dam, and two jet dividers will be noticed on the downstream face of the spillway immediately below the Sector Gate, and there is also a jet deflector at the foot of the spillway. The jet deflector diverts part of the falling water backwards causing a cushioning eddy under the sheet, and in order to provide sufficient space for the eddy, the toe of the dam is cut off and the dowstream side of the spillway is open. The eddy has a very high rotational velocity, its water being changed rapidly. The purpose of the jet divider is to form openings in the sheet thereby liberating the eddy and allowing the eddy water to pass. The Sector Gate apron is provided with training walls at the sides, and it was shown by experiment with models that these walls are of great importance for the prevention of scour below the Sector Gate dam, as at certain states of the river the level of the swiftly moving stream of water on the Sector Gate apron will be lower than the tail water level in the river. Consequently, if no walls were provided, water would flow in over the Sector Gate apron from the sides, and the increased water volume would cause excessive velocities further down.

Gates

The Sector Gate is of the hydraulically counterbalanced type which has been successfully used in several similar plants in Sweden, the wooden deck on the spill side of the Gate is subjected to uplift from water which automatically enters the Gate pit through longitudinal slots in the upper portion of the water deck as soon as the Gate is lowered, allowing head water to flow over the deck. The correct proportioning of the slots in the deck is most important for the economic design of the Gate and its operating gear.

The Taintor Gates consist of a curved skin plate supported by a number of channels bent to the same arc, in turn supported by two horizontal girders fixed to the main legs of the Gate, which carry the load to the trunnions. Each Gate is moved by a pair of racks, and inter-connected drive is arranged for opening the Gates, each Gate being calculated to stand and be operated under a pressure corresponding to a head of 86-ft., the corresponding thrust on each one of the trunnions is about 225 tons. The seals of these Gates proved something of a problem, after various rubber seals had been tried with greater or less degree of success owing to tearing if the Gates were moved, wooden seals of local design and make, following Canadian practice, were successfully adopted.

The Intake Gates are of the fixed roller type, and comprise a curved skin plate supported by two heavy horizontal girders which are connected with the rollers and the operating gear.

The Power House

There are three units of the vertical shaft single runner Francis type. Each designed for an output of 9,300 kw. at heads ranging from 60 to 53-feet, with the highest efficiency at the upper head. Between these heads each turbine discharge varies between 2,100 and 2,500 cusecs. The speed of the Sets is 93.8 r.p.m.

To provide for high tail-race levels during flood periods and to guard against flooding of the turbine bearings, there are two continuously running ejectors. At ordinary high water the ejectors are worked by motive water directly from the river, at extreme flood conditions the pressure of the motive water is adjusted by a high head centrifugal pump.

The Generators are connected directly to the turbines and rated at 11,250 kva, 6,600-volts, 50-cycles, three-phase, cooling air circulation is obtained by means of fans which draw air directly from the machine hall and discharge through concrete ducts led out through the downstream wall of the Power House. The thrust bearings of the Mitchell type carry a total load of some 170 tons. Brakes operated by compressed air and interlocked with the Turbine Gate mechanism are provided to bring the rotors to rest.

Switchgear

The switching of the Station was originally designed to be carried out at 66 kv, except of course for Low Tension auxiliaries, and for certain isolating equipment at 6.6 kv. This arrangement is now being altered, not because some of the 66 kv. switches are going to prove of greater value elsewhere on the system, and certain advantages can be gained by providing the machine switching, and switches for the transformer banks at 6.6 kv.

In conclusion, any visitor especially interested in some special side of the work connected with this undertaking will gladly be shown the relevant drawings, and such portion of the descriptive matter which is particularly applicable.

It cannot be too clearly emphasized that the compiler of these notes has taken all his information from the very valuable handbook produced by the original Consulting Engineers, and that the purpose is merely to set out as shortly as possible those features which from experience have proven to be those generally most interesting to visitors with technical training.

New Diesel-Electric Locomotive

Schenectady, September—A new diesel-electric locomotive, designed for switching and light service and operating at less than half the cost of a comparable steam locomotive, has just been announced by the General Electric Company. It is of all-welded construction, weighing 44 tons and of 380-horse-power rating. Its tractive effort at starting and low speed is greater than that of a steam locomotive with equivalent weight on the drivers, according to company engineers.

At a maximum speed of 35 miles per hour it can haul 224 tons on the level or 67 tons up a one per cent grade. At five miles per hour it can haul 2,040 tons on the level or 607 tons up a one per cent grade. As a switcher it operates for $1.50 per hour as compared to $3.28 for a steam locomotive, and in road service at $2.18 per hour as compared to $5.03 for the steam type.

Seven railroads have placed orders for more than a dozen of these new locomotives.

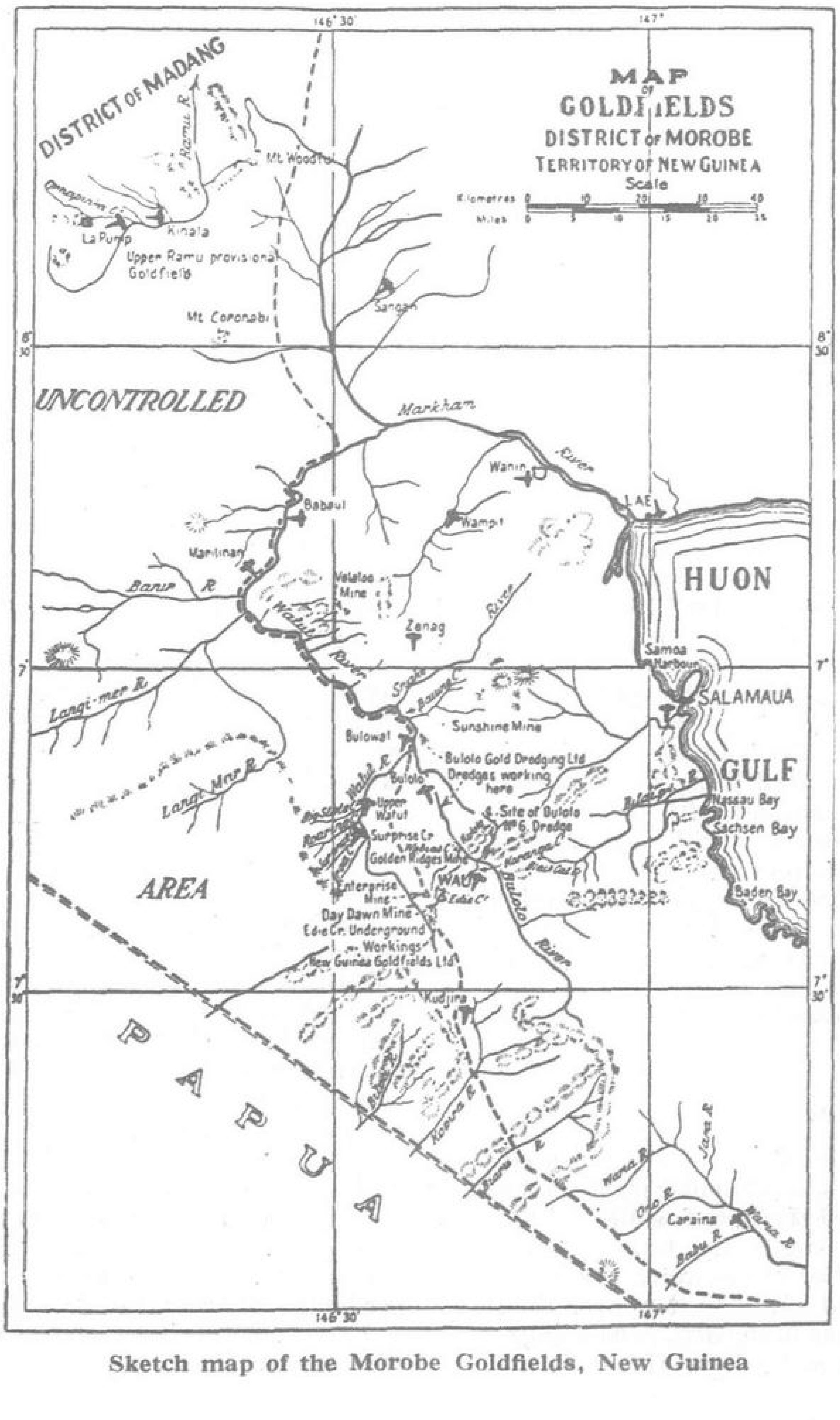
Gold in New Guinea

(The Mining Magazine)

A DETAILED description of the geological features of certain gold deposits of New Guinea is given by N. H. Fisher in an article appearing in the *Chemical Engineering and Mining Review* of Melbourne for March 11. The author says that almost the total gold production of the Mandated Territory comes from the Morobe goldfield and by far the greater proportion of that production is from alluvial workings. Alluvial gold is found mainly in the Bulolo and Watut rivers and their tributaries, particularly Edie Creek and Koranga Creek, which flow into the Bulolo River a few miles below Wau. The upper portion of Edie Creek has been the principal source of gold, though other streams have also contributed.

Morobe Alluvials

In 1926 phenomenally-rich alluvial deposits were found at the head of Edie Creek and gave rise to the rush, in which some extraordinarily high returns of gold were obtained. Later, with continually decreasing costs and an increased price of gold, much of the poorer ground could be worked or the richer ground reworked. Gradually most of the claims were acquired by the New Guinea Goldfields, Ltd., which has worked and reworked the ground by larger-scale operations, principally by the use of elevators.



Sketch map of the Morobe Goldfields, New Guinea

The rich alluvials were confined to the upper part of Edie Creek and its tributaries by a hard bar of silicified slate, above which the much softer rocks—hydrothermally altered phyllite, locally termed mudstone, and porphyries—readily wore down to give a comparatively flat stream grade. Consequently rich gold values were retained in the upper protions of the creek, particularly as the soft mudstone and porphyries weathered on exposure almost entirely to fine mud which was easily removed by the streams in flood time, leaving behind only the gold and quartz and a few boulders of the harder rocks. Below the hard bar Edie Creek plunges over waterfalls and through a series of gorges, so that it drops from nearly 6,000-ft. above sea-level to less than 3,000-ft., where it joins the Bulolo River in a few miles and in this portion, comparatively small and poor deposits were formed. Near the mouth of the creek, however, and down the Bulolo River for a mile or so, a much flatter grade allowed the accumulation of rich river gravels giving in places highly profitable returns, as at the well-known Cliffside lease.

Below Cliffside the Bulolo traverses two or three miles of precipitous granite and slate gorge and then opens out on to the wide plain of the Lower Bulolo Valley. This is over a mile wide in parts and extends with more or less continuity for many miles down to the junction with the Watut River, a slightly larger and also gold-bearing stream, which joins the Bulolo from the southern side. This magnificent valley constitutes the principal property of Bulolo Gold Dredging, Ltd., which has been operating dredges therein for several years. The alluvial deposits are in the form of a gently sloping basin and are of remarkably uniform character, with a maximum depth of over 200-ft.

Below the Bulolo-Watut junction and also for some distance up the Watut above it are further stretches of dredging ground, at the lower limit of which is the property worked by Sunshine Gold Development, Ltd. Then the wide flats terminate and the river becomes more constricted, so that below this point the occurrence of payable gold is limited to occasional flats and terraces formed in the bottom of the steep-sided river valley. Finally, the Watut River opens out on to an extensive plain, by which time the amount of gold brought down is so small and the quantity of diluting material from other big barren tributaries so large that the formation of payable placers is no longer possible.

Above the junction of Edie Creek and the Bulolo River, the Koranga and Namie Creeks, which join just above their mouth have carried rich alluvials, and the Little Wau Creek, flowing through the town of Wau itself, has also given rise to profitable mining. On the opposite side of the river Sandy Creek and Poverty Creek have carried payable gold in their lower portions and Bulolo Gold Dredging, Ltd., is operating a small dredge on the Bulolo River flats below the mouths of Sandy and Wau creeks. Above this point some small streams have produced a little gold but nothing of importance.

The Upper Watut River area has also been more or less profitably worked for many years, both in the river itself and in the western tributaries—Iroa Creek, Surprise Creek and Roaring Creek. Above Iroa Creek very little payable gold has been found except a limited quantity in Hidden Valley Creek right at the head of the river.

Origin of the Alluvial Gold

The alluvial gold of the Bulolo-Watut river system is derived from three principal sources. By far the most important is the late Tertiary mineralization associated with intrusive porphyries. The gold from this source is distinguished by its characteristic low value, as it is alloyed with approximately equal parts of silver. In addition to the late Tertiary source a certain amount of gold is derived from the vicinity of a series of quartz-biotite porphyries of considerably earlier age. Streams shedding from these intrusives carry gold of a fineness between 700 and 800. Away from the Wau and Edie Creek the whole of the gold of the Morobe district is associated with a large granodioritic intrusive, whose exact age is unknown, but probably Mesozoic. It has introduced gold of a uniformly high value, generally about 860 to 880.

The rich deposits of Koranga Creek deserve special mention, as the gold is shed from a series of river beds within the lake series, carrying gold of the late Tertiary type.

Lode Deposits

Edie Creek.—Mining operations on lode formations have been mostly disappointing up to date and very small in proportion to the extent of the alluvial workings. The group of ore-bodies referred to under the heading of Edie lodes occurs along a north-west and south-east line of fissuring, immediately to the south of the main intrusive body of porphyry at Edie Creek, which is assumed to be more or less contemporaneous with the late porphyries at Golden Ridges. A large pre-ore fault, known as the Edie fault, cuts obliquely across the general direction of the lodes and the lodes themselves occupy zones of fissuring and are cut by a series of faults which are considered to have originated earlier than the ore, though post-ore movement has undoubtedly taken place along them.

All these lodes are similar in disposition, origin, and mineral composition, though, of course, local variations are found. They are generally 3-ft. to 4-ft. wide but widths up to 15-ft. occur—notably, in the Karuka and Enterprise lodes. The dip varies from 30° to vertical and is usually towards the south-west. The oxidized lode material is very soft and consists mainly of manganese oxides and quartz, usually well laminated, with alternating layers of varying thickness of fine sugary quartz, crystalline quartz, solid quartz, and the manganiferous oxides. In the unoxidized zone the lodes where exposed are solid calcite and quartz with a little rhodocrosite. Pyrites, sphalerite, galena, stephanite, chalcopyrite, and tetrahedrite have also been identified. Gold values are high near the surface, 10 dwt. to 1 oz. or more per ton, except the wider lodes, which assay 5 to 12 dwt. with richer patches. Values decrease in depth and little ore of the sulphide zone has yet been found to be payable. Silver values are very high in the oxidized material, often up to 100 oz. or more to the ton, but decrease rapidly with depth. However, the silver is not amenable to treatment, less than 30 per cent being extracted by combined amalgamation and cyanidation, and it is considered to be present mostly in the form of a refractory silver manganite insoluble in acids or cyanide. Secondary enrichment seems to be largely, though not entirely, responsible for the distribution of both the gold and silver values, more especially the silver.

Day Dawn.—Though in many respects similar to the Edie lode, the Day Dawn ore-body differs sufficiently to be described separately. It lies immediately to the north of the main porphyry mass and out of the general line of shearing, which the other lodes occupy. The lode is mainly contained within the phyllite of the Kaindi series, which is here comparatively unaltered, no mudstone being developed in the immediate vicinity, and the southwestern end of the lode occupies the contact of the porphyry and the phyllite. The lode material is mostly small quartz stringers in schist along a fissure zone, which makes out from the porphyryphyllite contact, first cutting obliquely across the strike and dip of the phyllite, but later turning to conform with it. Manganese oxides are present as in the Edie lodes, but it is highly manganiferous only close to and along the porphyry contact. In dip and strike it resembles the larger group, strike north-west and dip 40° to 70° to the south-west. The average width is 3-ft. to 4-ft. Secondary enrichment, high and intractable silver values decreasing rapidly in depth, and low-grade primary ore are further features in common.

Golden Ridges Area.—The lodes in this section, two to three miles north-east of Edie Creek, are quite distinctive in character and associations from any of the Edie lodes, though points of resemblance do exist. They are usually flat-lying or gently-dipping bodies of calcite, quartz, and manganese minerals up to 25-ft. or even more in thickness and are contained within the volcanic breccia which here overlies the phyllite of the Kaindi series. In most cases the ore-bodies are overlain by flat sills of porphyry intrusive into the breccia.

Near the surface the lodes consist mainly of soft manganiferous material carrying good values, as at Golden Ridges itself, where 150,000 tons of ore averaging over 1 oz. per ton were found lying flat almost on the surface. At no great depth they pass into solid calcite, with varying proportions of quartz, rhodocrosite, and pyrite, though partial oxidation of the pyrite persists in streaks for some distance down the dip. The best values are associated with the oxidized manganese or with pyrites in quartz.

Secondary enrichment, partly mechanical, has played a small part in the arrangement of values within the lodes. Silver values are not high, usually not more than twice the gold content, somewhat higher in the thoroughly oxidized portions. Fineness of the gold is just under 600. Ore formation has been principally by replacement of the breccia, but the presence of pug bands on both walls of some of the lodes suggests that previous fissuring guided the ore-bearing solutions. The genesis of the lodes is considered to lie in the parent magma of the porphyry which intrudes the breccia and overlies the lodes. The Lower Edie porphyry mass close by is much earlier than the ore.

Of the lodes of the Upper Ridges area, three of the largest—Upper Ridges, Golden Ridges, and Golden Peaks—form a group which, form their similar disposition and occurrence at intervals down the mountainside, suggest that they may be step-faulted portions of the same original lode. While the mineral constitution of the various sections does not entirely confirm this view, sufficient detailed field work has not yet been done to disprove it or otherwise.

All of these lodes, as well as a lower lode at Upper Ridges, the more steeply-dipping Creek vein, and Upper Ridges South ore-body, do not, as far as is known, persist into the schist bedrock which underlies the breccia.

The one exception to this rule is Anderson's creek lode, which is a steeply-dipping calcite ore-body, 12-ft. to 15-ft. or more thick, contained almost entirely within the schist at the eastern end of and underneath the breccia. Breccia forms the hanging-wall of the lode for some distance, but mainly beyond the limit of values. The lode is largely a fissure vein, parallel to the strike of the schist, but cutting across the general dip, which, however, is overturned near the lode to conform with it. Secondary enrichment has played a rather larger part in the distribution of values near the surface, as might be expected from its general features. Otherwise the Anderson's creek lode is closely similar to the other ore-bodies of the Golden Ridges area and probably derived from the same magmatic source.

Other Districts

Wewak (Sepik) Goldfield.—Over much of the area between the Sepik river and the coast alluvial gold is found, but the payable deposits are mainly restricted to near the heads of the streams shedding from the central range which divides the two watersheds. The section in which most of the gold has been or is being obtained comprises the head waters of the Screw and Parchee rivers on the Sepik fall and of the Atob and Anumb rivers on the coastal side.

The alluvial gold of these streams is derived from a series of coarse gold-bearing conglomerates that lie at or near the base of the Finsch Coast Mio-Pliocene series, as developed in this area, and the same origin applies to other gold-bearing alluvials in the Sepik district. The old metamorphic basement rocks, similar to the Kaindi series and intruded by granodiorites, diorites, etc., are exposed in the bottom of many of the streams, which have cut down through the Tertiary sediments, but their association with the gold is due only to the fact that the gold-bearing conglomerates rest directly upon them.

Originally, of course, the gold in the conglomerates was obtained from reefs or leaders in the basement rock in the course of the breaking down of the pre-Miocene terrain, just as the gold of granodioritic origin in the Morobe district. The secondary origin of the gold is shown in its distribution by its universal association with the conglomerate beds, by the fact that some of the gold-bearing streams have not cut down to the basement rock, and by the correlation of values in places with certain conglomerate bands. The character of the gold, fine water-worn flakes or rounded grains, shows that it has not been shed from any nearby source, but has been for a long time subjected to water action and this may be also responsible in part for its high degree of fineness, generally in excess of 900 parts per thousand. Finally, the conglomerates have in several instances been shown by boxing to carry gold.

(Continued on page 442)

Paper Making

By LAURENCE BOOTHMAN

PAPER takes its name from Papyrus, which was made from a reed by the early Egyptians.

To-day, the usual raw materials used in paper making are still of a fibrous nature, such as cotton, flax, jute, esparto, bamboo, straw, Manila hemp, and wood of coniferous trees, such as pine, fir, spruce, and some deciduous trees, as brich and poplar.

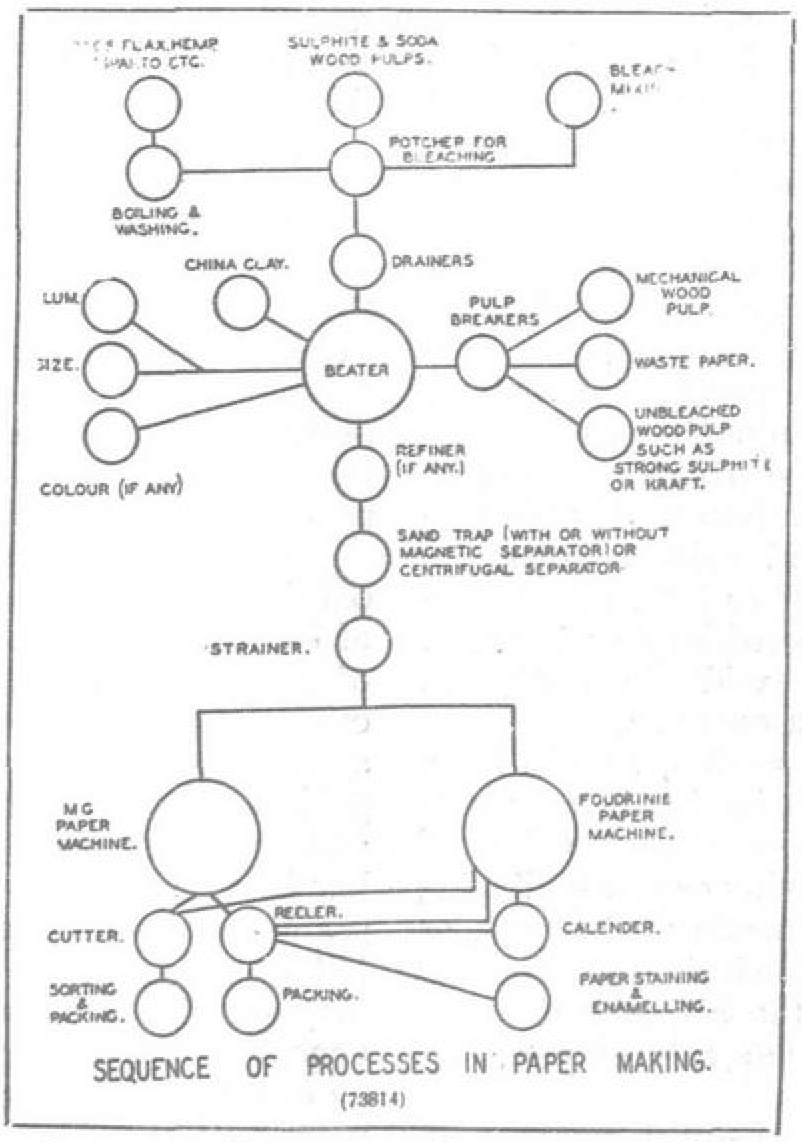
The most important material used by paper makers is wood pulp, made from spruce fir ; the next in importance are rag pulp and esparto grass pulp.

Processing of Raw Materials

The crudest form of wood pulp is called ground wood or mechanical, and no chemical process is used in its preparation : the logs are ground to a coarse sawdust by being pressed against high speed mill stones under water. These tear the logs into more or less coarse sawdust, which is passed through screens to remove any large chips, and is then run over a wire cloth, to strain out most of the water, and through press rolls to further consolidate it. It is sent to this and other countries in bales, about 50 per cent. moist, and is ready for the papermaker to make into cheap printing paper, such as newsprint. It is never used quite alone for paper making, as it has little strength of fibre, but various chemical properties of sulphite wood pulp are added to it to give strength to the finished paper.

To make chemical wood pulp, the logs receive slightly different treatment. Instead of being ground, they are cut up into small chips, and these are boiled with bi-sulphite of lime in huge kiers, at high temperatures. This treatment gives an entirely different pulp, which consists of cellulose fibres, in their original length, separated from most of the juices and other ligneous materials contained in the original tree, and not eliminated from the mechanical wood pulp. After boiling, the wet pulpy mass of fibres is washed with water to remove the gums and resins, etc., which have been freed from the cellulose during boiling, and it is then run off on a pulp machine in a thin layer, dried, cut, and baled ready for use.

Pulp in this state is called unbleached, or strong sulphite, and it is used for making newsprint, in combination with the mechanical pulp referred to above. It is also used alone in the manufacture of wrapping and cheap printing papers, greaseproofs, imitation parchments, and glazed transparent papers. Sulphite pulp is also sold bleached, and in this state it is used for a great variety of better class papers, both alone, and in combination with esparto grass for high grade magazine papers, and in combination with rags for making typewriting, writing and account book papers, and watermarked papers generally (It is in this bleached state that it is also used in ever increasing quantities for the manufacture of artificial silk).



Sequence of processes in paper making

Paper mills which use wood pulp entirely for the manufacture of their products have fewer departments and much less preparatory plant than those which use grasses and rags, because the separation of their celluloses has already been done by the pulp manufacturer. All they have to do is to buy the qualities of pulp they need, and proceed to make them into paper. Those mills which use grass and rags, however, have to possess extensive preparatory plants, in order to produce their celluloses in the form of suitable pulps. These plants may be roughly divided into two categories ; first, the necessary machinery for treating rags, and secondly, that for separating the cellulose from grass and plants.

Rags come to the mill in roughly sorted grades, and include ropes, string, old clothing and other articles of domestic use, in fact, anything made from cotton, linen or hemp. These usually have to be regraded in the mill, according to the paper for which they are required. For instance, the best blotting and filter papers are made from well worn and soft cotton rags, such as old curtains. Thin typewriting papers require a stronger rag of cotton or linen. Strong ledger papers require also strong cotton and linen rags. For extra strong papers, which must stand much handling and hard wear, such as bank-notes, bills of exchange, and the like, new linen and cotton rags are used, such as the cuttings from shirt and linen goods factories, collars and cuffs, canvas shoe cuttings and so forth.

After the rags have been graded, they are sorted and any buttons, pins, or pieces of metal, elastic, silk or wool, are thrown out. The rags are then dusted, chopped up into small pieces, and then dusted again, when they are ready for boiling. This operation is carried out in a spherical revolving kier, holding about three tons of rags, together with water and alkali, which may be lime, soda ash, or caustic soda, or a combination of these. This boiling is carried out under steam pressure, and the operation may take from six to fifteen hours, according to the grade of rag. The boiling removes all grease, coloring matter, sizing, and other impurities such as starch, and leaves a fairly pure cellulose. After the rags have been boiled, they are washed in a washing engine with large quantities of clean cold water.

While the rags are being washed, they are also being cut up into threads, and pulled out of thread into the original fibres. In other words, the work of the weaver and spinner is undone, and we get the cellulose fibre with which the textile manufacturer also started his operations. The rag pulp, has now to be bleached, and this is done by adding a solution of chlorine gas in lime water to the machine ; this rapidly bleaches the pulp to a white color.

The rags are now in the same state, so far as paper making is concerned, as the wood pulp received from the pulp manufacturer. These two pulps, ready to be made into paper, may be left for the moment, and return made to the preparation of raw fibres, taking esparto grass as a typical specimen.

The boiling is carried out in large stationary kiers, with caustic soda as the reducing agent. After boiling, the grass is a soft pulpy mess of a dirty green color, and, like the rags, it has to be washed with clean cold water. After the washing, it is bleached with a solution of chlorine gas in lime water, and it is then ready to be made into paper.

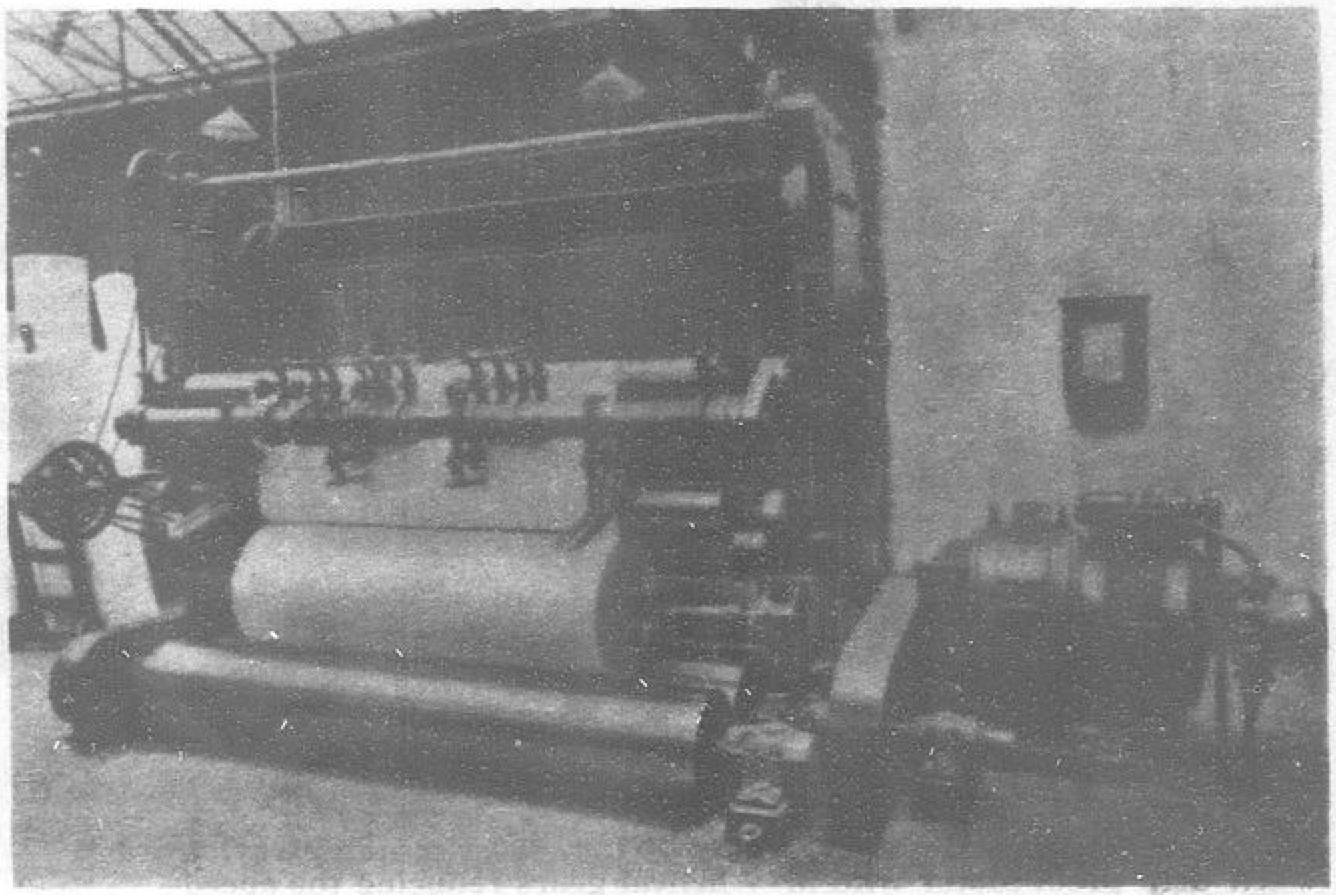
Esparto grass is much esteemed for the highest class of printing papers, which have to take half tone blocks. It is also used as a body paper for coating, which gives the best basis for really high quality printing for illustrations. It is also used for the printing of books in general, on account of the excellent way it takes type. The paper is soft and very bulky, giving a good fat book with the minimum amount of weight and pages. Most school and text books and cheap writing papers, such as are used for exercise books, are made chiefly from esparto grass, as is also the paper used for the ordinary novel. All papers made from esparto are soft and deficient in strength, and they are never used for valuable documents or those which have to stand much handling or hard wear.

These three principal pulps from which paper is made, wood pulp, rag pulp, and esparto pulp, while all more or less pure cellulose, they differ markedly in their characteristics.

Wood pulp fibres are about $\frac{1}{8}$-in. long, flat, and fairly strong. Esparto fibres are only two or three millimetres in length, and they are round and pointed. The fibres of cotton cellulose are about one inch long, flat and twisted, like a corkscrew, and this enables them to intertwine closely together to make a strong paper. Linen fibres are also about one inch long, round and knotted, like bamboo, and they split lengthwise and form little tufts of fibres, which stick out from the main fibres, and then they assist in making a strong paper.

A sheet of paper consists of millions of fibres of varying lengths and sizes, all twisted and twined together, and when you tear the paper, you actually break or tear very few fibres, you simply pull them apart from each other by force. If you can imagine a bundle of cricket stumps, tied together by string, you could easily pull out one or two from the bundle, but if you cut a dozen sticks or branches from a thorn hedge, and tied them together, you could not easily pull out one of the sticks from the bundle, simply because they would be all mixed up and twisted with each other. That is a fair description of the part the fibres play in the formation of a sheet of paper.

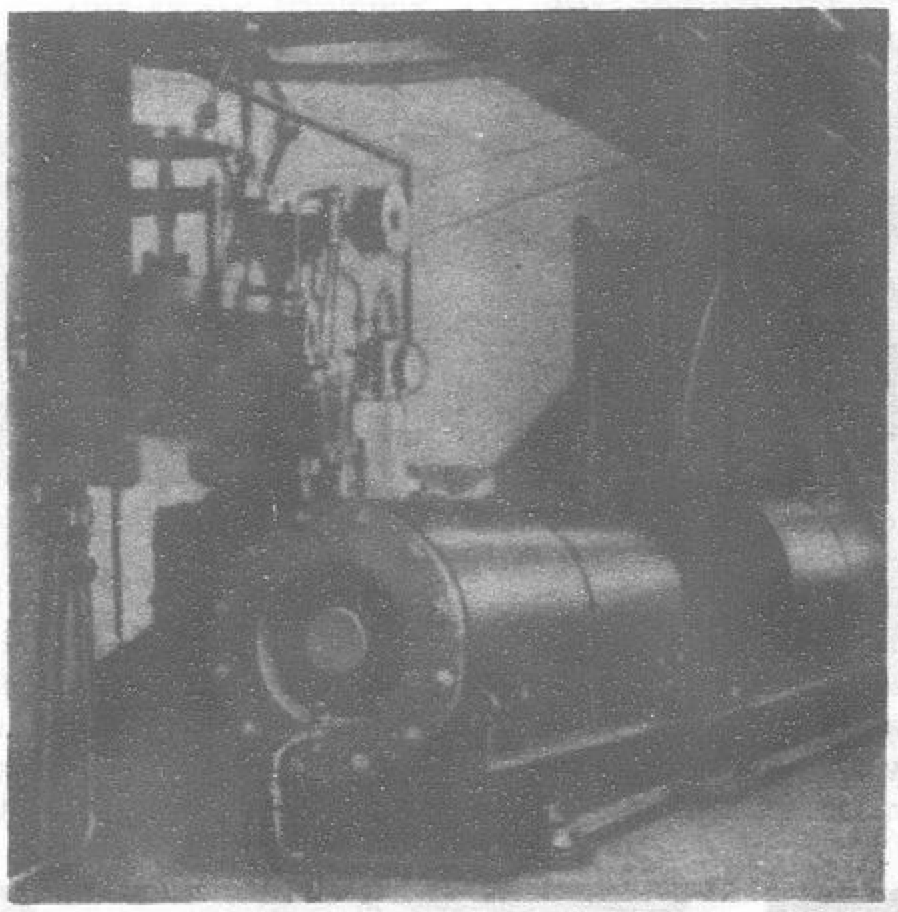
Now the fibres in the pulps, whose preparations are described above, could not be made into paper in the state in which we have left them. In this state, they are called "half stuff," which simply means that they are only half prepared. One could actually make a sheet of rough paper, but it would be full of lumps and knots and stringy clumps of fibres, with many holes between them; the fibres are too long and coarse.



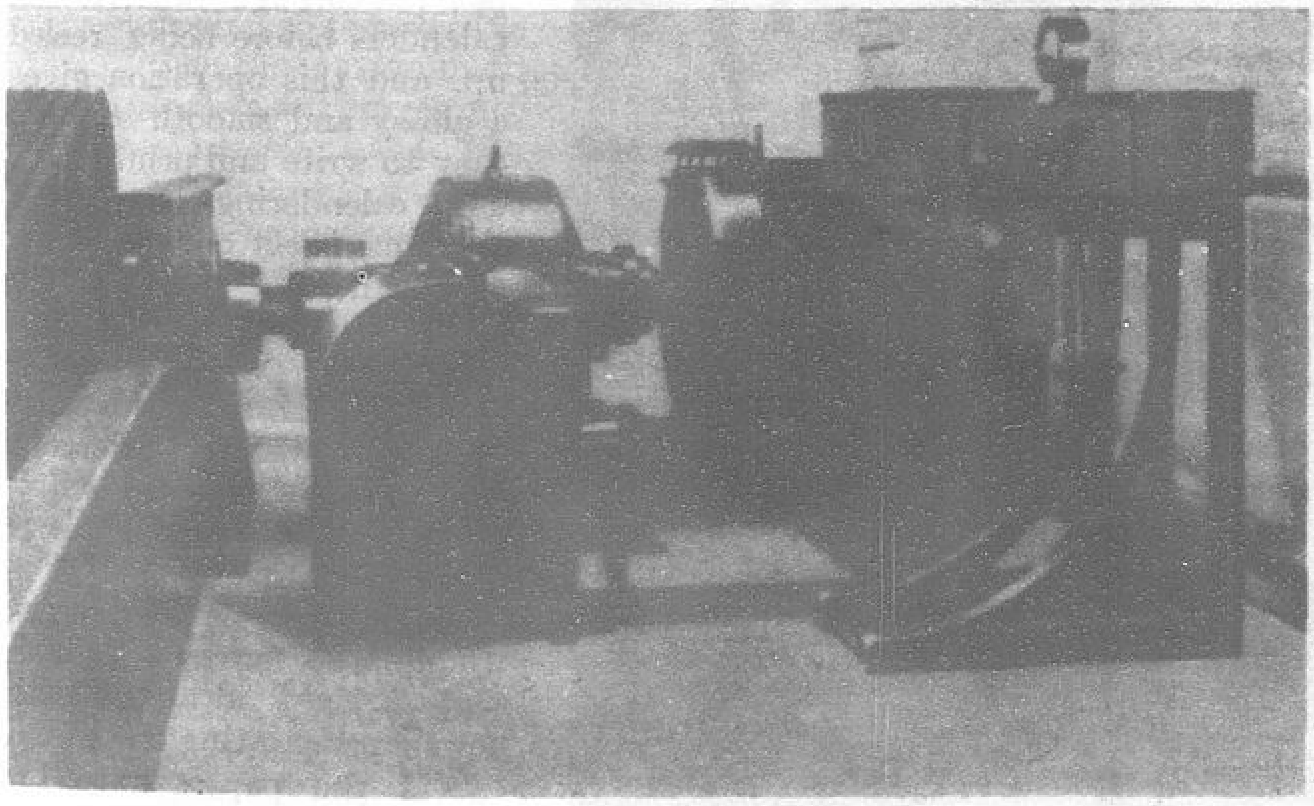
Reeler and slitter driven by a 35 b.h.p. 1,200/120 r.p.m. C.H.T. 76 variable speed commutator motor. It is supplied with "start," "stop," "inch", "raise speed" and "lower speed" push button control

Second Processing—Beating and Refining

In order to further prepare the pulp and half stuff so that it will make satisfactory paper, it is put into what is called a beating engine, which is a large oblong trough, with a partition in the middle, which runs to within a short distance of each end. On one side of this a heated roll fixed with steel or bronze projecting knives around the circumference revolves at high speed. Immediately below this roll is a fixed plate, also fitted with projecting knives, but they are fixed and stationary. The pulp is put into this beating engine with sufficient water to reduce the consistency to about 6 per cent. fibres and 94 per cent. water. The roll revolves at 2,200 ft. circumferential speed per minute, and draws the fibres down and between the revolving and stationary knives, which tear and cut them. This operation goes on for from 1½ hours or less for blotting paper, to 12 or more hours for thin condenser tissues, and other strong papers. When the fibres are ready, they will be found to have been very much reduced in length, and to have been crushed and bruised and battered, so that small fibrillæ will be sticking out like bristles from their sides. They will also be thoroughly soaked with water, and quite flabby.



The engine which drove the beaters till superseded by the motor shown below



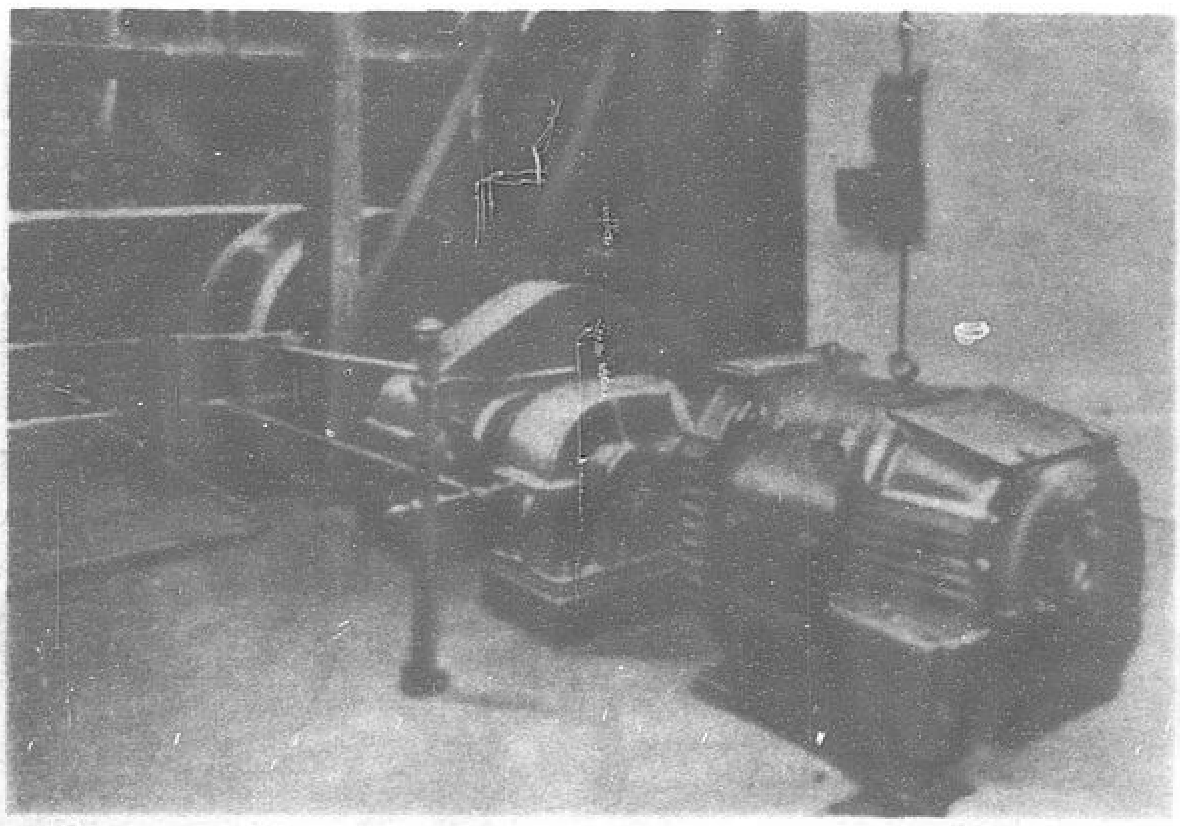
A 230 h.p., 730 r.p.m. RW slip-ring motor with M-V helicalge ars for driving the beater at an English paper works. It is controlled by the oil circuit-breaker and liquid starter seen in foreground

If the paper is to be written upon with ink, or used for wrapping parcels, it must be sized, otherwise it will be absorbent, like blotting paper, and will not keep out moisture. Sizing is effected by adding a solution of sulphate of alumina and rosin to the pulp, while it is being beaten. If the paper is to be colored, the dye is likewise added at this stage. Most printing papers also need the addition of china clay or chalk, to fill up the interstices between the fibres and help to make the surface smooth.

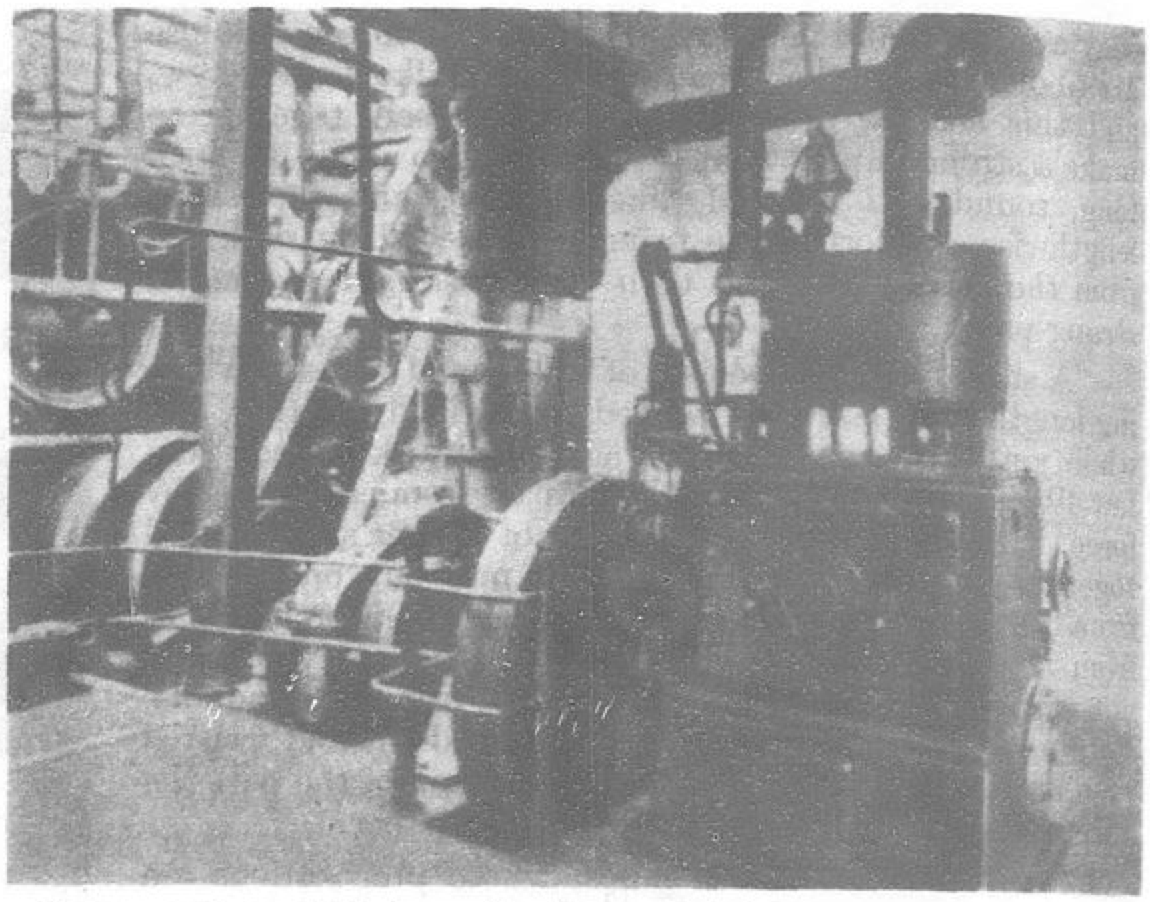
The stuff is now ready to be made into paper, but it still contains, more or less, specks of dirt and small impurities, which have not been got rid of in the previous operations, and which would spoil the look of the finished sheet. In order to remove these as completely as possible, the stuff is run through a centrifugal machine, which throws out all specks of metal, grit, coal, dust, etc., in fact, everything of which the specific gravity is greater than that or cellulose. The stuff is then passed through a fine screen, which keeps back knots of fibres, and also any which may have been left too long, and it is now ready to run on to the paper machine.

Machine Made Paper

There are two kinds of paper making machines. The M.G. (meaning machine glazed) is usually a single drying cylinder machine producing paper glazed on one side only. Wrapping papers, envelope papers, and a limited number of printing papers are made on this type of machine. The Fourdrinier machine, on which the majority of papers are made, such as news, printing, writing, and also wrapping paper, has a multiple number of drying cylinders, the drying of the paper being more gradual. If glazing is required, this process follows on a calender. Machines embodying a combination of the M.G. and Fourdrinier are also in use.



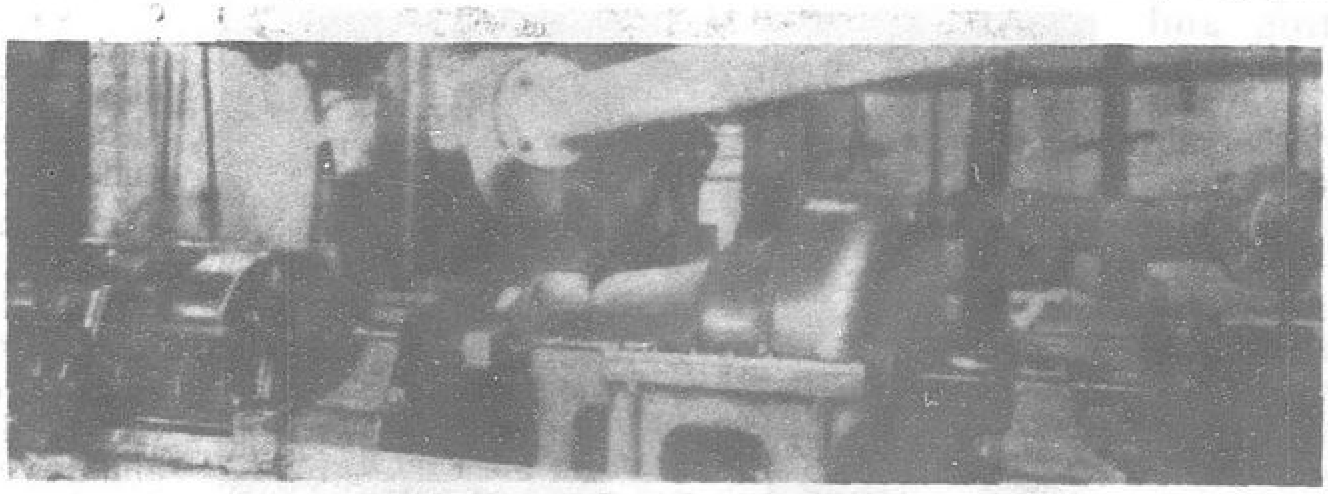
Dry and paper machine driven by 70 h.p. 960 r.p.m. Metrovick RW drip-proof motor with M-V helical gears reducing the speed to 160 r.p.m. the motor is variable in speed, being controlled from a Ward-Leonard set



Steam engine which drove the dry end of the paper machine until superseded by the motor shown in accompanying picture

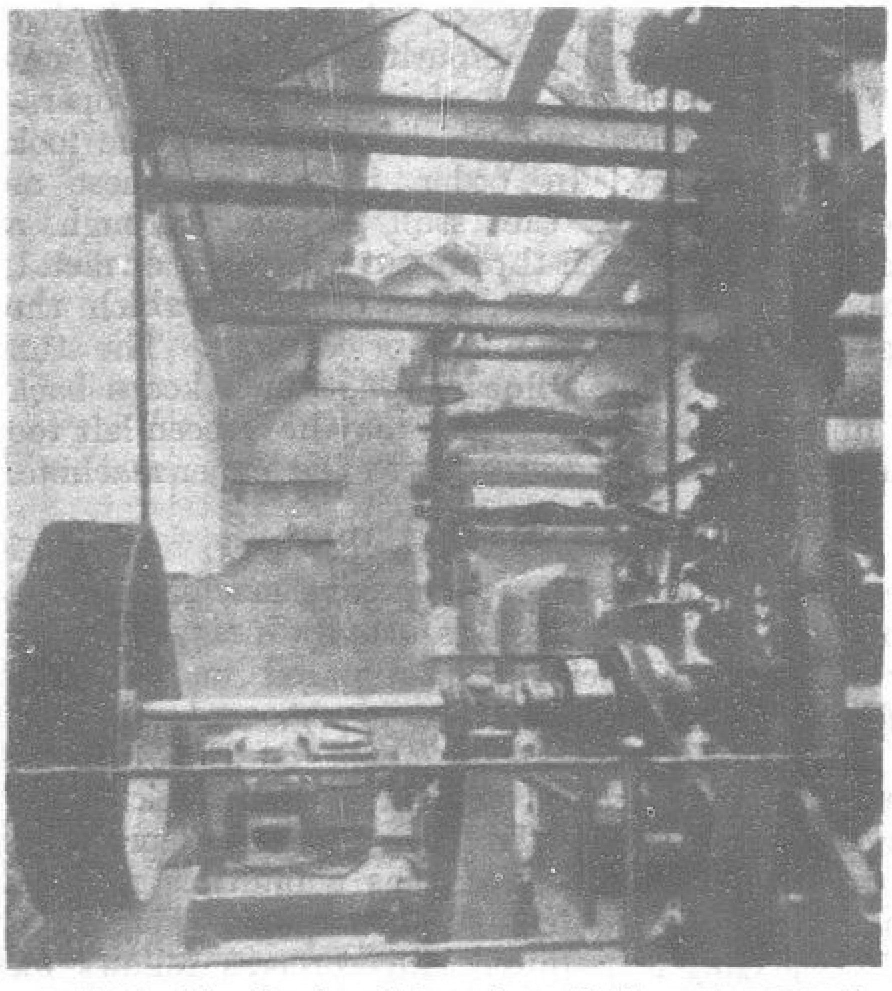
The machine is continuous and consists of three main parts. First, the wire cloth sieve, on which the endless sheet is formed, secondly, the presses, which squeeze out water from the formed but wet sheet, and thirdly, the drying part, which drives out the last traces of moisture, and leaves the completed but endless sheet of paper in the form of a roll.

The wire part consists of an endless phosphor bronze wire cloth, of about 72 mesh to the inch, and 60-ft. long, and about 80 to 200 inches in width, according to the class of paper being made. The diluted mixture of fibres and water, looking, in the case of white paper, almost like milk, is run in a thin flat stream on to the perfectly horizontal wire cloth, which is moving forward at anything from 80 to 1,000 ft. per minute. The moment the mixture passes on to the wire, water begins to drain away through the meshes of the wire, but the fibres cannot get through, and so they are deposited on the surface of the wire cloth. While this water is draining away, and the fibres are being deposited, the wire is moving continuously forward, and is also being shaken slightly, laterally, to encourage the fibres to felt together. When the fibres reach the end of the wire, they have been formed into a compact sheet, still very wet, and while in this condition, they pass under a " dandy " roll, which impresses the watermark into the sheet. Next they pass over vacuum boxes, which suck out more water, and leave a sheet of paper which can support its own weight.

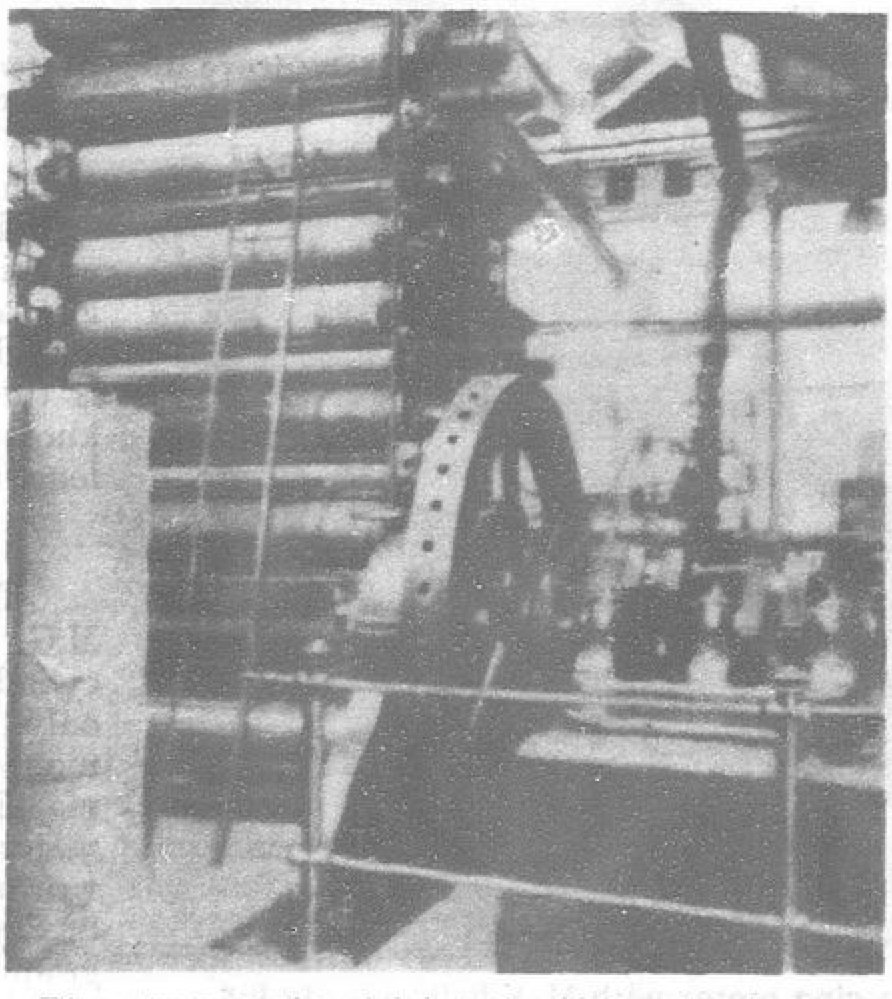


Refiner driven by a 100 h.p., 1,160 r.p.m. slip-ring motor with M-V helical gear reducing to 300 r.p.m.

The moist web now leaves the wire cloth and passes to the presses, through which it is carried on a woollen felt. This felt acts as a support to the fragile web of paper, and also as a sponge, in that it soaks up water from the paper. Great pressure is applied to the paper and felt as they pass between heavy rolls, and subsequently the paper is firm and fairly dry. It now remains only to remove the remainder of the water—still over 60 per cent.—and this is done by passing the paper round large iron cylinders heated by steam. The moisture is driven off, leaving a dry endless sheet of paper.



A 12-bowl calender driven by a D.C. motor speed controlled on the variable voltage system. It replaced the steam drive shown in the next picture

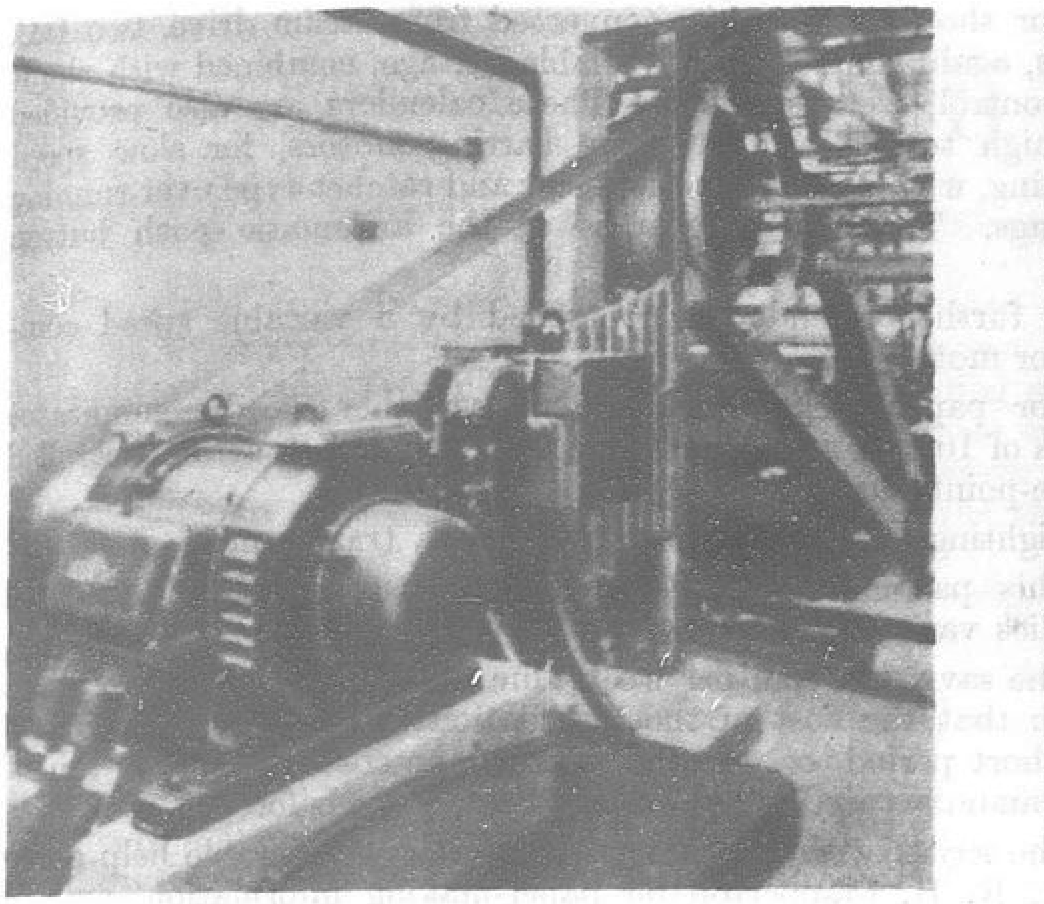


The steam engine driving the 12-bowl calender until superseded by the motor shown in accompanying picture

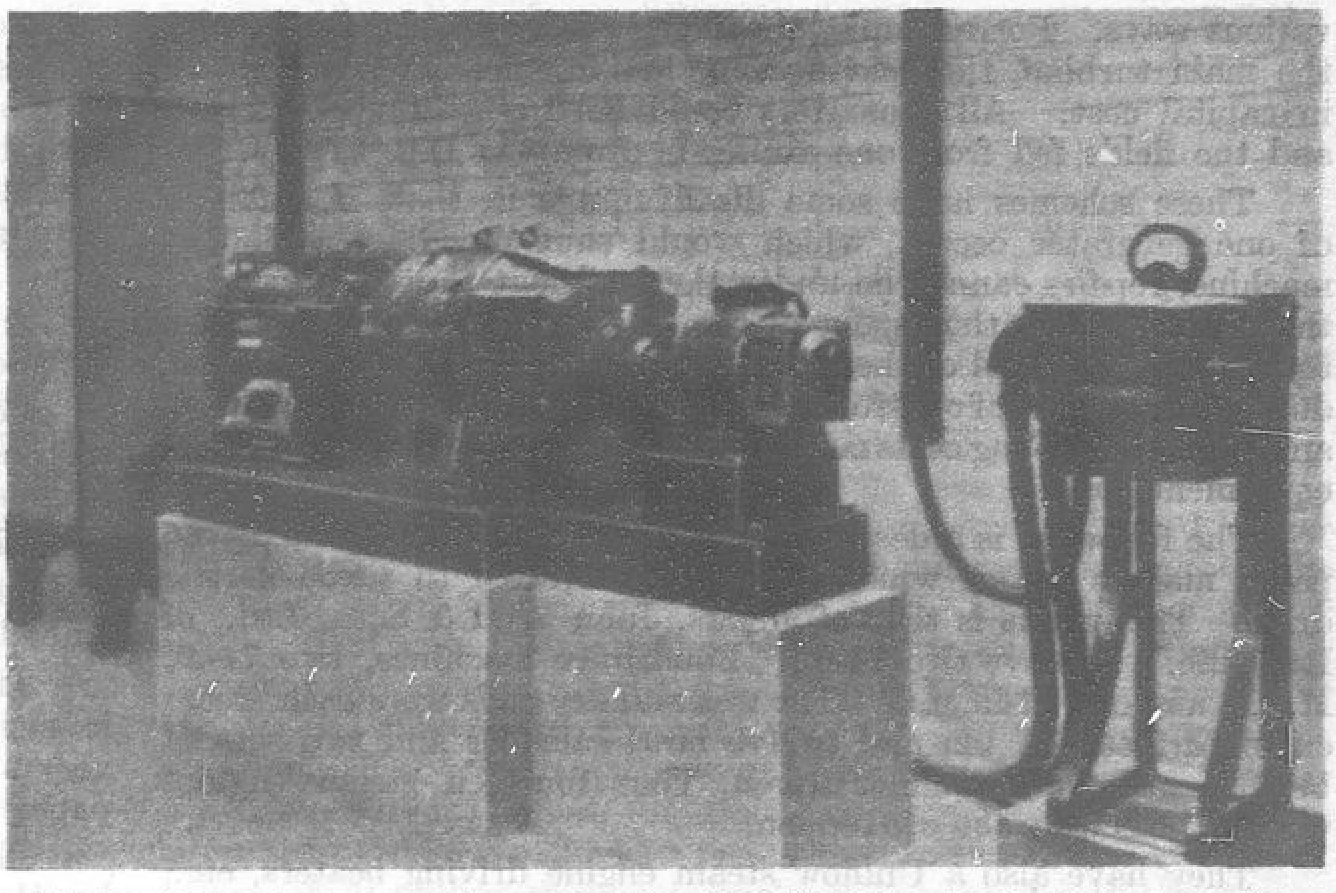
The paper is usually passed through a series of calenders before being reeled up, and this operation gives a glossy and smooth surface, easy to write and print upon. The calendering has much the same effect on the paper as the ironing of a collar or cuff by the laundry iron. The paper is now quite finished so far as manufacture is concerned, but undergoes further treatment, according to the purpose for which it is to be used.

Newsprint is merely rewound into narrow rolls and sent straight away to the newspaper printing offices.

If the paper is to be made transparent, or nearly so, it is damped and calendered several times, until



A 35 h.p., 720 r.p.m. type RW slip-ring drip-proof motor driving the wet end of a paper machine

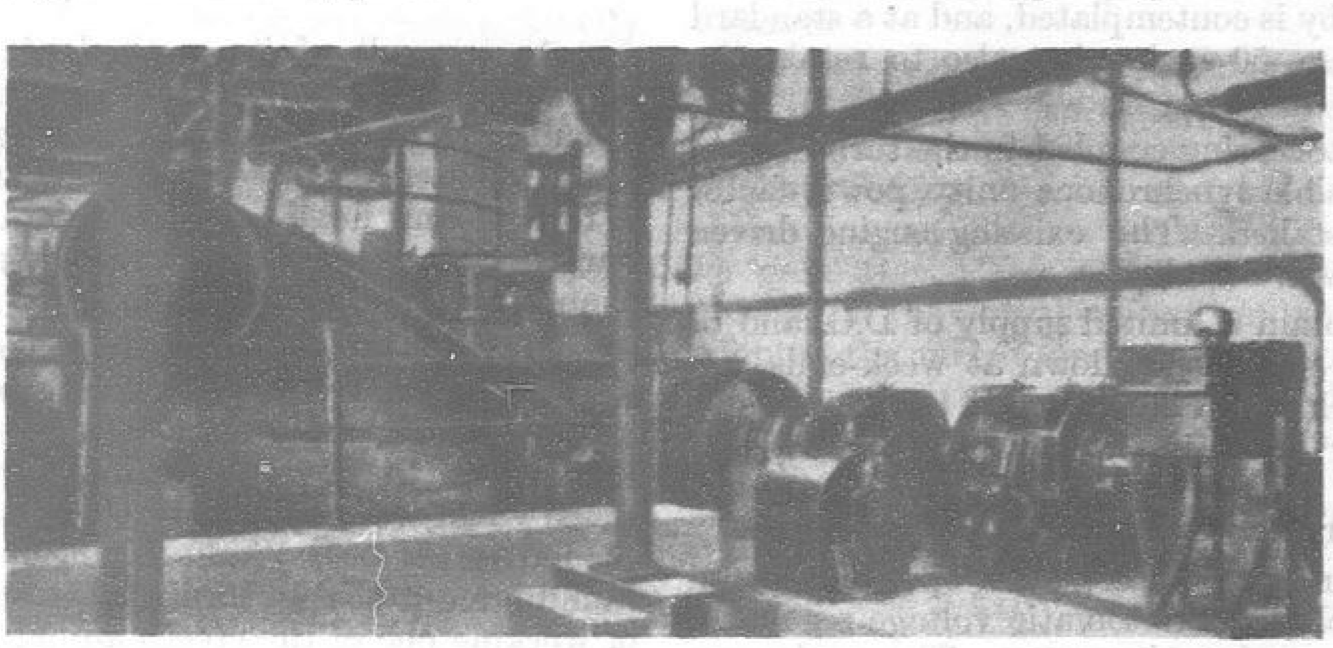


Motor generator set with exciter for the Ward-Leonard control of the drive of the dry end of a paper machine. It consists of a 130 h.p. slip-ring motor, 59 kw. D.C. generator with exciter and oil-break star-delta starter and a Ward-Leonard control panel

the fibres are severely crushed by the heavy pressure which is applied.

Most papers are cut into sheets before leaving the mill, because most printers still prefer them in this state, although the tendency is for more and more paper to be printed on rotary presses.

Writing papers are always cut into sheets and packed into reams, each containing so many sheets, and there are well recognised sizes, weights, and thicknesses, which are more or less standardized. Many of the sizes also have a distinguishing watermark, such as Royal, Imperial, Foolscap, Large Post, etc.



Type RW slip-ring motor, 175 h.p. 975 r.p.m., reduced by M-V helical gear to 200 r.p.m., driving "Hibberts" beater. Controlled by an oil circuit-breaker and liquid starter

Electrical Drive of Paper Making Machinery

The first consideration is the drive of machines where a wide range of speed control is required, and various schemes can be considered, as follows :—

(1) *Variable speed commutator motors.*—This type of drive inherently gives constant torque throughout the speed range, *i.e.*, h.p. output is proportional to the speed. If it is desired to increase the h.p. outputs at the lower speed end, then the maximum ouput possible has to be increased over that actually required.

(2) *Variable speed direct current motors.*—Owing to the wide speed variations required, it is rarely possible to use straight variable speed shunt controlled D.C. motors.

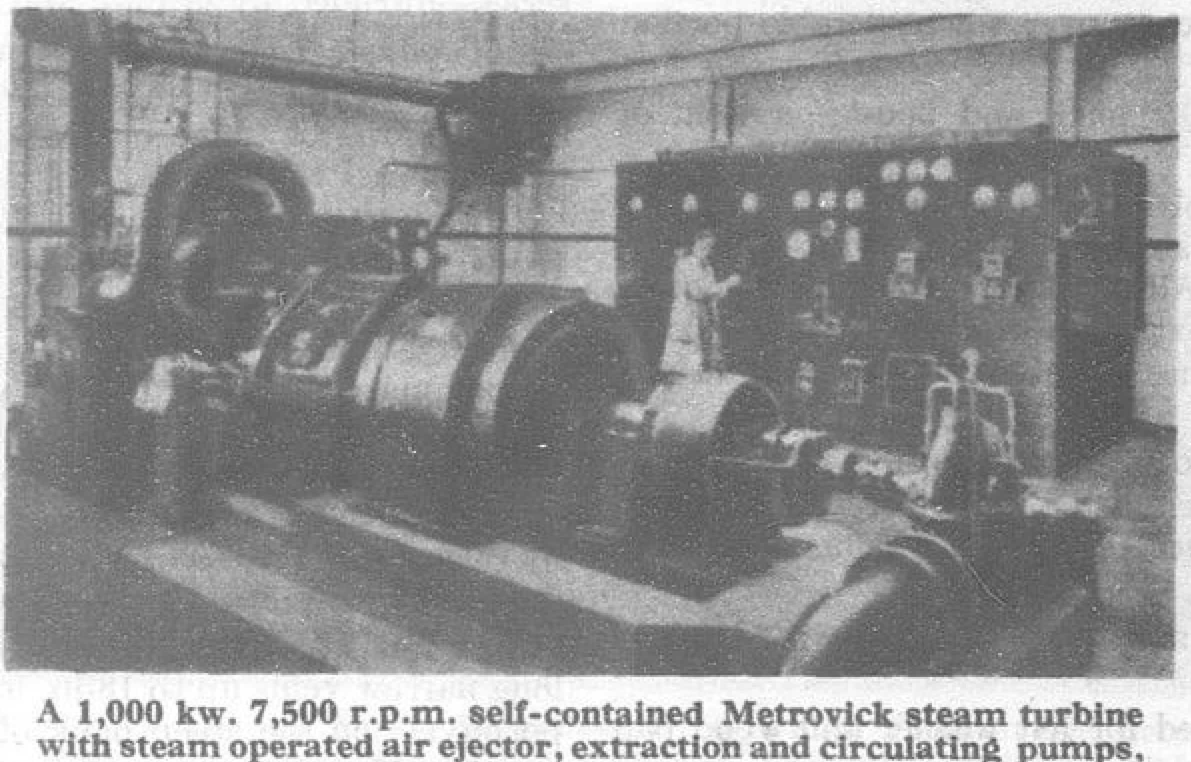
(3) *D.C. motors fed on the variable voltage, or so-called Ward-Leonard principle*, *i.e.*, the whole power of the driving motor is taken from a variable voltage generator.

(*a*) The driving motor can be controlled by voltage only, *i.e.*, h.p. output varies proportionately to the speed.

(*b*) In combination with above shunt field control can be added. This results in maximum h.p. output being obtained over any desired portion of the top speed range, and further increases the h.p. output obtainable throughout the voltage control range of speeds.

(4) *Buck and Boost Scheme.*—If a D.C. supply is available, this allows the use of a smaller and, therefore, less expensive variable voltage generator, as a portion of the power is taken from the D.C. supply.

(5) For schemes 3 and 4, a further modification in control can be obtained. For instance, the motor (whether A.C. or D.C.) driving the generator can also be of the variable speed type, so that the speed and, therefore, the voltage, of the generator can be varied by speed control of its driving motor.



A 1,000 kw. 7,500 r.p.m. self-contained Metrovick steam turbine with steam operated air ejector, extraction and circulating pumps, geared to a 420-volt, 1,000 r.p.m. three-phase alternator and exciter

Besides the above schemes, there are various other points of design that may affect cost. For example, the variable speed main driving motors, if provided with forced ventilation, can be reduced in size, and, therefore, in cost. Such forced ventilation could be obtained by means of a small motor driven fan, mounted on the motor, with self contained trunking.

Another method would be to fit a fan on the motor generator set (when such is installed). This however necessitates trunking an air duct to the driving motor, which may or may not be convenient, but it does away with the indivi dual small motor driving a fan.

Where several paper machines are to be electrically driven by D.C. motors, then (whether variable voltage or buck and boost voltage control, with or without, in addition, shunt field control) these feeding D.C. generators can be driven in various ways. For example, these generators could be driven by the main turbine, thus saving some loss in efficiency and possibly in capital cost. All generators could be driven by one motor, and the fields fed from one exciter or from the D.C. supply.

These schemes have some disadvantage in that, if a failure of one generator occurs, which would shut down its attendant machine, repairs cannot be undertaken without shutting down all the others. Then the layout of the works may not be conducive to reasonable control of these generators from the actual machines, due to the amount of control and main wiring that may be required, and increased cabling costs must be offset against savings in electrical equipment costs.

The following is a description of a typical steam engine driven paper makers works, which has been converted to turbo-electric drive. This works is that of Messrs. John Wild & Sons, Ltd., of Radcliffe, who have two 74-in. Foudrinier machines, two 74-in. M.G.'s and one 94-in. M.G. The wet and dry ends were each steam engine driven. A ten and twelve bowl calender and two sets of beaters were also engine driven. Thus fourteen steam engines were displaced by the conversion.

They have also a Uniflow steam engine driving beaters, etc., and this has been retained; also a steam driven D.C. generator of 200 kw. capacity, this being the only source of electric power available, and was used for driving a number of motors in connection with packing department, etc.

Several schemes for conversion to electric drive were considered by the firm's chief engineer, Mr. J. Whewell, in co-operation with Metropolitan-Vickers, and finally the following scheme was adopted.

It was decided that the electric supply should be the same as the " grid," although no standby is contemplated, and at a standard circuit of 400-volts, three-phase, 50-cycles, but also to retain the existing D.C. motors.

Instead of a D.C. generator being coupled to the turbo set to feed the D.C. motors, a reversible synchronous unity power-factor motor generator set was installed. The existing engine driven D.C. generator was retained as a standby.

Hence it is possible to obtain a limited supply of D.C. and/or A.C. current when the turbo set is shut down at week-ends. If A.C. is required, then the synchronous motor would be driven as an alternator, the D.C. generator being the driving motor fed from the steam driven generator. This is a useful arrangement when maintenance and overhaul work to machinery is required.

The voltage of the synchronous motor, when operating as an alternator, is under the control of the automatic voltage regulator, which normally controls the turbo alternator. The turbo set comprises a 1,000 kw. 7,500 r.p.m. self-contained steam turbine, with steam operated air ejector, extraction and circulating pumps geared to a 1,000 r.p.m. 420-volt alternator with exciter. The turbine is designed for a maximum pass-out quantity of 18,000 lb. of steam per hour, at 15 lb. gauge per square inch. The most economical point is when passing out 10,000 lb. of steam with a load of 800 kw. The initial pressure of steam is 160 lb. at turbine stop valve at a total temperature of 510° F.

For the dry end of four of the paper machines, variable voltage combined with shunt field control of the driving motors was decided on, thus giving maximum horse-power over a considerable portion of the top speed range.

For the fifth paper machine, " buck and boost " system of control was utilized.

Five-way push button control stations are provided for each dry end, comprising " start," " stop," " inch," " raise speed " and " lower speed " buttons. All the paper machine motors have vernier rheostats fitted for extra fine control of paper speed. The wet end of all paper machines are driven by the same size drip-proof slip-ring motor.

For driving beaters, and also refiners, slip-ring motors with helical reduction gears were installed, in preference to slow speed, direct coupled sets, on account of the higher efficiency obtained.

For rag boilers, clay mixers, and hosit, a motor with integral gear was installed.

Squirrel-cage motors were used for felt washer and wood pan with direct starting.

For the two calenders converted from steam drive, two D.C. motors, again controlled by variable voltage, combined with shunt field control, were supplied. These calenders are also provided with high torque, squirrel cage barring motors, for slow speed threading, with worm reduction gear and ratchet type over-running couplings. The control gear is of the automatic push button type.

A further calender is controlled by a variable speed commutator motor.

For paper reelers and slitters, variable speed commutator motors of 10 to 1 speed range have been installed, again controlled by five-point push buttons.

Lighting throughout is taken from a transformer.

This particular installation is interesting also in that it embodies various types of variable speed control.

The saving in coal per week, due to turbo-electric conversion, is such that the cost of the installation will be written off in a very short period, or, in other words, the cost of coal per ton of paper manufactured is considerably less than before.

The writer wishes to acknowledge the considerable help given by Mr. R. H. Clapperton on paper-making information, and to Messrs. John Wild & Sons, Ltd., for permission to publish the photographs and information relative to their equipment.

Gold in New Guinea

(Continued from page 337)

As a result of its method of origin, deriving from runs in Tertiary conglomerates, and dependent for concentration largely upon freaks of erosion, the Wewak gold is, with only a few exceptions, very erratically distributed and is found over a large area. A few streams have been found to be highly payable, many more barely so or payable only in short sections, while very many more cannot be worked at a profit.

Mt. Hagen.—Two small creeks near Mt. Hagen have been worked profitably—by very cheap labor — and several small gold-bearing quartz stringers have been found. The shale in which these occur is of undetermined age, mostly gently dipping, and much younger in aspect than the metamorphic phyllites, etc., of the Kaindi series, near Wau. Stringers such as those that have been found have probably furnished the alluval gold, but in the course of working one of the creeks an older creek bed at about the same level was discovered buried beneath 10-ft. to 30-ft. of volcanic ash. The gold in this buried stream bed gives indications that, if it could be followed to its source beneath the overlying ash blanket, it may have been shed from a reef of somewhat larger dimensions than the known stringers.

Baining District, New Britain.—At Talele, near Cape Lambert, a small lenticular reef carrying up to 10 dwt. of gold per ton in places was discovered but not mined and a very little alluvial gold was obtained in gullies shedding from it. The country rock is a metamorphic series—slates and shales similar to the Kaindi series—intruded by granite and diorites.

Tugitugi, Tabar Island.—In 1934 a small amount of alluvial gold, hardly anywhere payable, was found in streams shedding from an area of tuffaceous rock which apparently has a little gold disseminated through it.

Kieta Goldfield, Bougainville.—The Kupei mine, not far from Kieta, has for some years been producing a small amount of gold. The ore-body consists of small quartz stringers in porphyry. The stringers, up to a couple of inches thick, occur throughout a funnel-shaped mass of rock in two series at right angles, with other lesser stringers crossing them diagonally. The values are nowhere high and seem to be dependent on the concentration of quartz stringers, which is greatest towards the center. The ore is mined as a whole by open cut. Copper is present up to several per cent and introduces difficulty into the treatment.

A few miles farther inland from Kupei, at Pumkuna, a few long narrow veins up to 18-in. in width have been disclosed, also in porphyry, on the steep bank of a creek. Gold values are mostly less than 15 dwt. per ton and as at Kupei, copper is present in the ore.

Dairen and Ryojun

(Contemporary Manchuria)

Dairen and Ryojun are both sea ports situated at the southern end of Manchuria, and well known internationally, Dairen as one of the greatest trading ports of the Orient and Ryojun as an ancient battlefield eminent in the world history of wars. The two cities, however, being widely different in character, it is difficult to describe them in comparison and they have to be treated collaterally.

The city of Dairen was born when Russia proposed to build a city at this point, just before the Russo-Japanese war. Previous to that time there were only scattering three Chinese villages of Tung-chingniwa, Si-chingniwa and Heichutzu. The oldest evidence of the use of the name Chingniwa is the stone tablet erected in the ninth year of Tungchih, 1870, and now preserved in the compounds of Matsuyama Temple at Matsuyamacho, Dairen. In the middle of the nineteenth century the British gave the name of Victoria Bay to the inlet at the present Shakako. When the Russian Government issued in 1899 an order for constructing a free port at Dairen, the name of Dalny was officially given. Dalny means in Russian "a distant place," and embodied the Russian policy of eastern advance. After that date for five years Russia gave particular efforts for the construction of the proposed city and harbor, but before it was half finished the Russo-Japanese war broke out and the plan had to be given up. The territory coming under their control, the Japanese followed the original city planning designed by Russia and then enlarged it, finally developing the city as it is to-day, a modern city of 510,000 population, second largest city in Manchuria after Mukden. The municipal system was applied to Dairen in 1915 when the population was only 80,000. Of the present population of 510,000, Japanese take up 160,000 and the rest is mostly Chinese.

The city of Dairen is located at 38° 56′ N. Lat. and 121° 36′ E. Long. In latitude it is at almost the same degree as Lisbon or Washington, D.C. in the United States, and in longitude it lies on the same degree as Manila, Philippines. Its location is near the extreme end of Liaotung Peninsula, stretching out southward into the sea, and the city has grown on the southwestern shore of the Dairen bay. In the south of the city stand hills with Nanzan in center, running east to west. These hills are generally called the Dairen mountain group. The entire mountain group is formed of quartzite and basanite of the Pre-Cambrian system, and the stride of the strata generally follows the outward shape of the range. The distance of about three kilometers from the northern base of the mountain to the seashore is a coast plain of extremely easy gradient, mainly formed by the effect of erosion, and upon this foundation of clay slates and other aquerous sedimentary rocks are the important portions of Dairen. In this plain are terraces running from the neighborhood of Fushimidai, Shimmei-cho and Satsuma-cho to the Jijiko district, and these terraces are of diorite that erupted through the above mentioned sedimentary rocks.

The Chiroba or Central Circle in Dairen from which radiate ten principal thoroughfares. In the center is the Statue to General Yoshimasa Oshima, First Governor-General of the Kwangtung Leased Territory

The former Imperial Russia, desiring to possess an ice-free port in the Far East, decided upon a harbor construction and city planning scheme for the present Dairen on the basis of a plan made by an engineer, Kerbech of the Chinese Eastern Railway. The actual planning and construction were entrusted mainly to Saharoff, but the proposed construction of the city and harbor was carried out and finally improved to the present stage by the Japanese after the Russo-Japanese war. As the first harbor construction plan, Russia built wharves totalling 8,400 feet in length, which consist of the present No. 1 wharf and a part of the No. 2. The basic construction of the North breakwater was also completed. The total cost of the first construction work was about ten million roubles. As the second construction plan, it was proposed to build No. 3 wharf in the west and more breakwaters at a cost of 30 million roubles to make it possible for the harbor to berth about 100 large steamers at one time and to handle five million tons of cargo annually. But with the outbreak of the Russo-Japanese war, this harbor construction plan had to be given up.

Succeeding to the Russian plan, Japan gave utmost efforts for its materialization. To-day there are long breakwaters on the three sides of the harbor, and seven wharves, No. 1, No. 2, No. 3, No. 4, A, B and C, as well as the Jijiko pier for handling petroleum and soya bean oil. Ships of 20,000 ton class can berth freely at the wharves.

As to wharf equipment there are numerous warehouses and the 70,000 *tsubo* open-air storage space. The shipments of soya beans and cereals to Dairen from hinterland points become particularly large in winter and as warehouses are unable to store them all, most of them are stored in open-air with proper facilities for protection. This system is taking advantage of the climate of Manchuria that has little rain in winter. At wharf warehouses is adopted the mixed storage system of soya beans, bean cakes and wheat, under which goods received for transportation are placed in mixed storage according to their quality.

A feature of cargo working at the wharves is the operation of several thousand coolies every day. Among wharf buildings there is besides the Wharf Office the huge passenger waiting pavilion with a capacity of holding 5,000 people.

Dairen is the trading port, industral center and the administrative center of the Kwantung Leased Territory. Particularly the foreign trade of the port ranks in the Orient with that of Shanghai, and exports reached 290 million yen and imports 460 million yen. The main export items are soya beans, bean cakes, coal, millet, bean oil, peanuts and others, while the principal import goods are cotton textiles, iron and steel, wheat flour, machinery, timber, silk textiles and others.

The industrial activity at Dairen is bean oil milling that produces bean oil and bean cakes. Bean oil mills number fifty and the annual production is 45 million yen.

Dairen hospital, the largest in the Orient

Let us now start on sightseeing Dairen. First, see the Ohiroba or Central Circle which is the center of Eastern Dairen, and from where radiate ten streets in all directions. The Circle forms a small beautiful park where the statue of General Yoshimasa Oshima is erected in memory of the first Governor-General of the Kwantung Leased Territory. Surrounding this circle stand the buildings of the Dairen Municipal Office, Oriental Development Company, Yokohama Specie Bank, Bank of Chosen, Police Headquarters, British Consulate and Dairen Chamber of Commerce and Industry. Yamagata-dori running from the circle, is the business office street of Dairen and one of the most magnificent streets of the city.

Going from the Circle along Higashikoen-cho, we come to the head office of the South Manchuria Railway Company. The South Manchuria Railway Company has a capital of 1,400 million yen and 170,000 employees. Not only does it operate the entire railway lines in Manchuria, but also the harbors at Dairen and Kanseishi, and the coal mines at Fushun and Yentai. The library of the company also located on this street has 230,000 volumes, including many rare Chinese and Manchu books, and the so-called Ozo Library of 20,000 volumes of Russian books. Particularly in books of Russian literature and those relating to the Russo-Japanese war the library has no equal in Japan. The library possesses notable collections of Japanese books on Manchuria and Mongolia, and books on the Far East in Western languages.

Going further beyond the library, one will come to Asahi-hiroba and Chiyoda-hiroba. Being the eastern factory district of the city, here are found many bean oil mills operated by Japanese and Chinese, and the most famous among them are the Nisshin and Santai Mills. Further on, the longshoremen's dormitory called Hekizanso is reached. Here are housed more than 10,000 Chinese coolies working at the wharves.

To the south of Ohiroba, not far off, stand the castle-like structure of the Dairen Hospital which is one of the largest hospitals in the Orient, with 620 rooms for patients. A little further south are the Dairen shrine with beautiful compounds and the Kwantung Meteorological Observatory.

Going along Oyama-dori from Ohiroba, one will come to Naniwa-dori that crosses it in its middle. This occupies the busiest shopping street in the city. There are big department stores, and the evening, gay street stalls offer various goods for sale. Crossing the Nihonbashi bridge from Oyama-dori, the so-called Russian Town is reached. This is the part of the city of Dalny that Russia constructed prior to the Russo-Japanese war, and there still remain many unique buildings of Russian architecture. On the shore of the Russian Town is built the wharf for junk trade. Within the Town are two museums; the Manchuria Resources Museum and the Industrial Museum. The Manchuria Resources Museum was opened in 1926 and exhibits specimens and models of agricultural, mineral and other products of Manchuria as well as diagrams and reference materials concerning them. The Industrial Museum, opened in 1927, exhibits models, specimens and diagrams relating to machinery, electric, mining, engineering and other industrial activities, and railway, harbor and other transportation facilities as well as industrial tools of Manchuria and Mongolia.

To the west of Ohiroba is Tokiwabashi which is the center of the City's transportation systems and is always congested with people, Dairen Station being near. Nearby is the Central Park with an area of 500,000 *tsubo*, in the center of which stands the war memorial monument dedicated to the spirit of more than six thousand officers and men who sacrificed their lives in battle fields between Kaiping and Dairen during the Russo-Japanese war.

To the south of Tokiwabashi is the Russian Cemetery, beyond the Osakamachi cut. There stands a Russian style church erected in 1912. Among about 400 tombs in the cemetery stands a monument to those who died in the Russian warship Enisey that blew herself up at the entrance of the Dairen harbor in January, 1904. Further beyond is the seashore with three famous seabathing resort of Shizugaura, Rokotan and Fukasho.

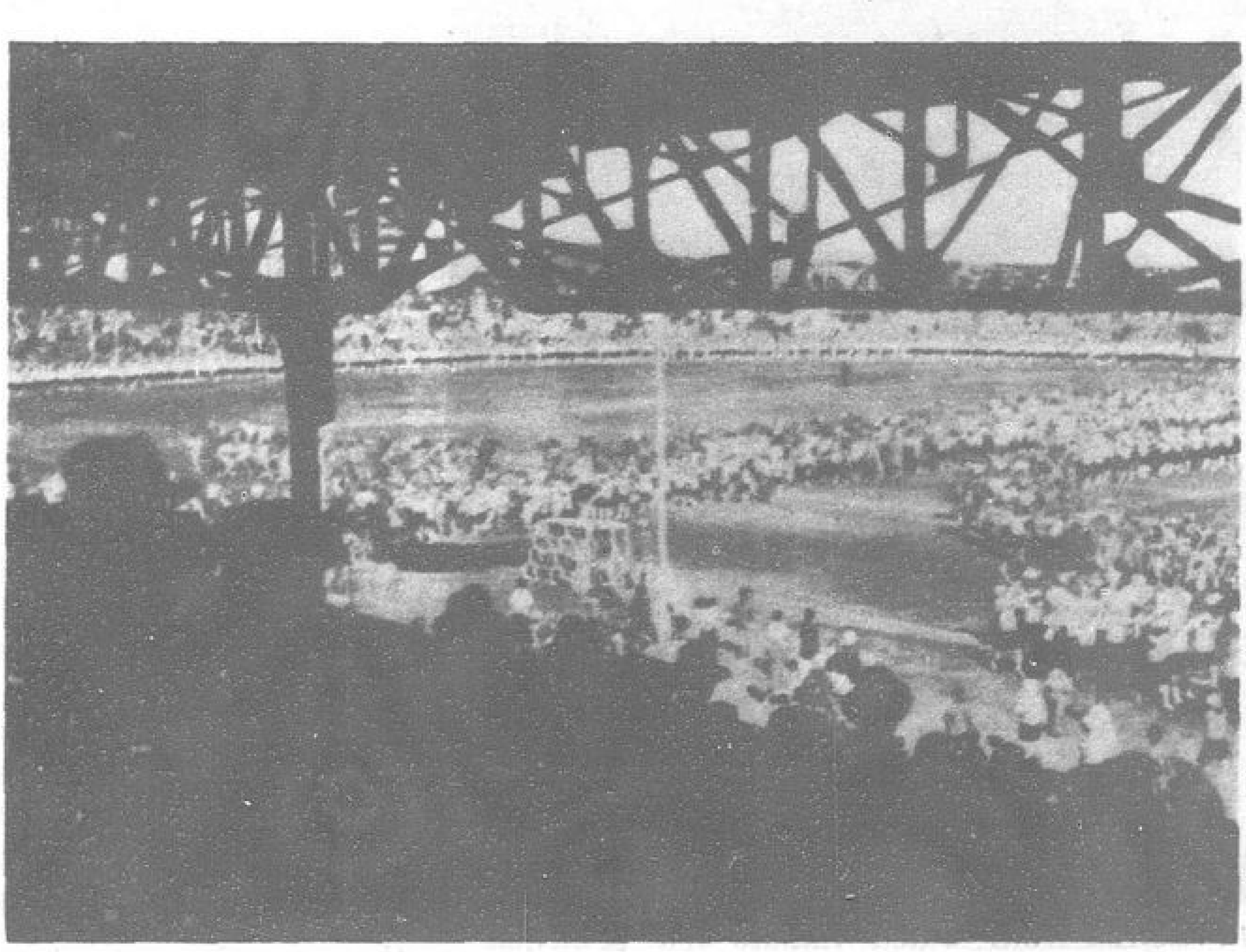
Going westward from Tokiwabashi is reached the Chain Store Block where one hundred shops of varied merchandises are grouped together. In the neighborhood is Komura Park laid out on the hill slope, and in the park is the statue of Marquis Jutaro Komura, who was chief Japanese delegate to the Japan-Russia Peace Conference at Portsmouth, United States, and after whom the park was named.

Turning right from the park, one will reach the Chinese quarters of Hsikwangtzu; turning left there are the Kwantung Government Office and the Dairen Stadium of 14,000 *tsubo*, seating 46,000 people, beyond rows of Japanese residences.

Hoshigaura, or Star Beach in the south-west of the city is a large park and a sea-bathing resort. The park is of 330,000 *tsubo* and has a hotel and summer cottages. The statue of Count Shimpei Goto first president of the South Manchuria Railway Company, stands in the park.

The Port of Ryojun

Ryojun is a naval port and city at the extreme southern end of Manchuria, located at 38° 47′ N. Lat. and 121° 16′ E. Long. Navigating south-west from here along the Byoto islands, one will reach Tengchou, Shangtung Province, China, aross the Gulf of Pechili. The harbor of Ryojun is strategically favored being in a shape of a bag with a very narrow opening. It is the only non-freezing port in Manchuria. Thus in ancient days, China used it as a naval base, and Russia, constructing strong



The huge Dairen athletic field

forts valued it as a naval station. Then Japan came and continued to operate the harbor. During the Russo-Japanese war, Port Arthur made history when Japanese naval blockaders sacrificed their lives blocking the harbor entrance, while the Nogi Corps attacked the fort from the rear.

Until 1927, Ryojun was the administrative center of the Kwantung Leased Territory with the Kwantung Provincial Government Office in the city, but to-day it has become only the site of a great past battle to be appreciated by sightseers.

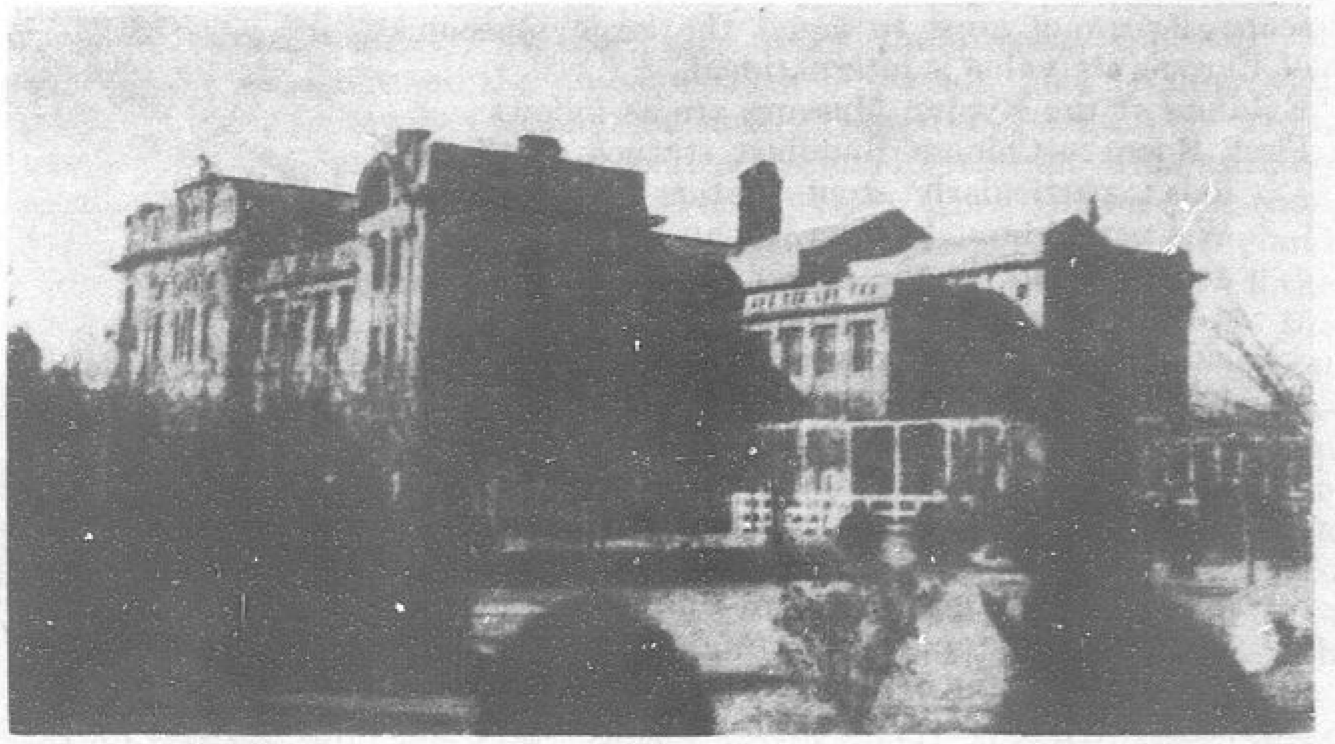
Ryojun is divided into the New Town and Old Town by the Lungho river. The Old Town is quite lively with shopping streets, but the New Town is quiet, consisting mostly of residences and schools. The battle fields of the Russo-Japanese war are around the outskirts of the city.

Between the New and Old Towns, just above the railway station, rises Hakugyokuzan or Monument Hill, on the top of which stands the grand memorial tower, guarding the city of Ryojun. The memorial tower is erected to the spirits of 20,696 officers and men who were killed in the siege of Port Arthur. At night a strong arclight shines brightly from its top.

Passing through the Old Town from the Tower, one will come to the War Museum. Here are exhibited more than 2,000 arms, uniforms and other articles used by both Russian and Japanese armies in the Port Arthur battles.

Proceeding from the Old Town to the seashore, the Ogondai bathing beach with the Yamato Hotel and its summer cottages will be reached. The seawater here being clear and cold, the beach is an ideal summer bathing resort.

The hills behind the Old Town were all forts and batteries in the Russo-Japanese war. A visit to all these battlefields will make any sightseer realize the fierceness of the battles that raged so long and understand why the siege of Port Arthur is famous in the history of wars. Going uphill on the Fort Road from Yamate-cho, Old Town, will be reached the South Fort of East Chikuanshan and its batteries. Further beyond is the North Fort of East Chikuanshan where the attack by the Japanese forces continued from August to December 18, 1904, when it finally fell. This was the strongest among all forts in the Northeastern section, having 30 guns of all kinds and here terrific fighting was repeated time and again. Major-General Kondratyenko, who was directing war operation at this Fort, was crushed to death as he was attending a conference in the Fort Commander's room when a Japanese shell hit it. A monument in his memory now stands by the ruin of that room. Here fighting was mostly in entrenchments and at some places fighting continued for fifty-two days. The Japanese forces dug two tunnels, and building eight powder magazines, caused a great explosion. The marks of Japanese rifle bullets on the iron door of the tunnel room, and the relics of the machine-guns fired by Russians in the entrenchment tell of the desperate fighting on both sides.

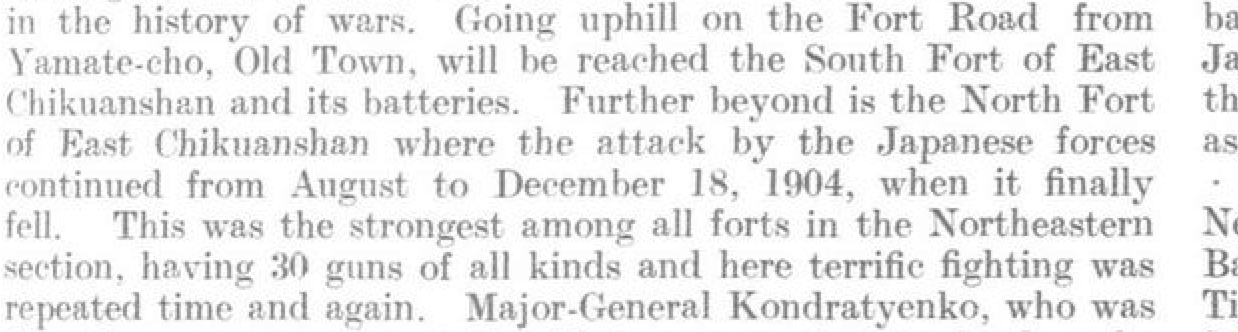

The Ryojun Museum

Next, beyond the Ichinoe Fort is the Bodai Fort at the highest point in the Northeastern section, and once the Japanese troops that occupied it were entirely wiped out. At the East Fort of Panlungshan was fought a fierce battle only next to that fought at the famous 203 Meter Hill. Beyond the West and North Forts of Panlungshan is the Fort of Erhlungshan which was the largest permanent fort in the Northeastern section. With 47 guns the Fort undertook to fire on the Lungho river area. The Japanese forces exploded it by boring tunnels and building five powder magazines underneath. The fighting was so fierce that on the day of its occupation, 1,200 casualties were caused. The fourth battery of the Sungshushan was attacked by a force of 4,000 picked Japanese soldiers wearing white cords across their shoulders, under the command of Major-General Nakamura, but they had to retreat as their determined onslaught failed to weaken the fort.

Looking toward the sea at the dividing line of the Old and New Town, one will notice the narrow entrance to Port Arthur Bay, which is closed in by the Ogon mountain on the east and Tiger's Tail Promontory on the west. To the bay entrance, the Japanese Navy sent blockading parties three times during the Russo-Japanese war. Here Commander Hirose died a hero. On the rock at the bay entrance now stands a monument to the blockading parties.

Crossing the Nihonbashi bridge across the Lungho river that divides the Old and New Towns, one will see the Shogun Hill, projecting on the left. Here is the ground on which Russians proposed to build a Greek Catholic church the plan of which, however, was not carried out because of the war. The great white building standing at Oseko-machi, where the New Town begins, was a hotel operated by the Port Arthur Municipality during the Russian reign. It was long used by the Kwantung Government as its office; to-day it is occupied by the Ryojun Normal School. Along the beach in front to this building is laid the Ryojun Athletic Field. The Ryojun Museum is situated beyond Oseko-machi. The museum has also a zoological garden of about 4,000 *tsubo* with a special room for stuffed animals, and a botanical garden of 10,000 *tsubo* which is commonly called Kraokuen Park.

The Ryojun Museum was completed in 1918 at a cost of Y300,000, after two years of construction work. Its collection is of many different kinds, and those relating to zoology, botany, mineralgy, fishery, customs and archaeology number 78,000 items. Particularly the Central Asian and Indian relics loaned by Kozui Otani and the relics of Manchuria and Mongolia, and Chinese porcelains exhibited by the South Manchuria Railway Company are especially valuable. The special feature of the Museum lies in the collection of exhibits concerning East Asian archaeology, arts and customs, and although in its


Memorial in commemoration of the blockade of Port Arthur

scope it cannot hope to equal the large museums of Europe, its value is international.

Exhibits at the Ryojun Museum are as follows:

First Room:—Chinese Buddhist statues of all periods: particularly stone statues of the North Wei period brought from Honan Province, China, are notable. In the center of the room stands a large copper statue of Buddha, and on its both sides are placed four wooden statues which were brought from the suburbs of Peking and are of the latter period of Ming and the early period of Ching. The sutra tower with Sanskrit inscription is of the Liao period excavated in Manchuria.

Second Room:—The print of the inscription in Chitan characters on the tombs of Liao period emperors located in Jehol Province.

Third Room:—Stone sculpture found in India. Specially the Gandhara carving is to be noted.

Fourth Room:—Chinese porcelains and potteries of Ming and Ching periods.

Fifth Room:—Chinese porcelains and potteries of Sung period. There is a Chikuan pot which was first introduced as the porcelain made in Manchuria.

Sixth Room:—Tri-color porcelain of Tang period and the celadom of Ming and Kaoli periods.

Seventh Room:—Mainly the stone-age relics of Manchuria and Mongolia, and especially there are many exhibits obtained in the Kwantung Leased Territory concerning stone-age period.

Eighth Room:—Bronze wares of the Han and earlier periods, excavated in Manchuria.

Ninth Room:—Clay wares found in Han period tombs in South Manchuria and particularly the neighborhood of Ryojun.

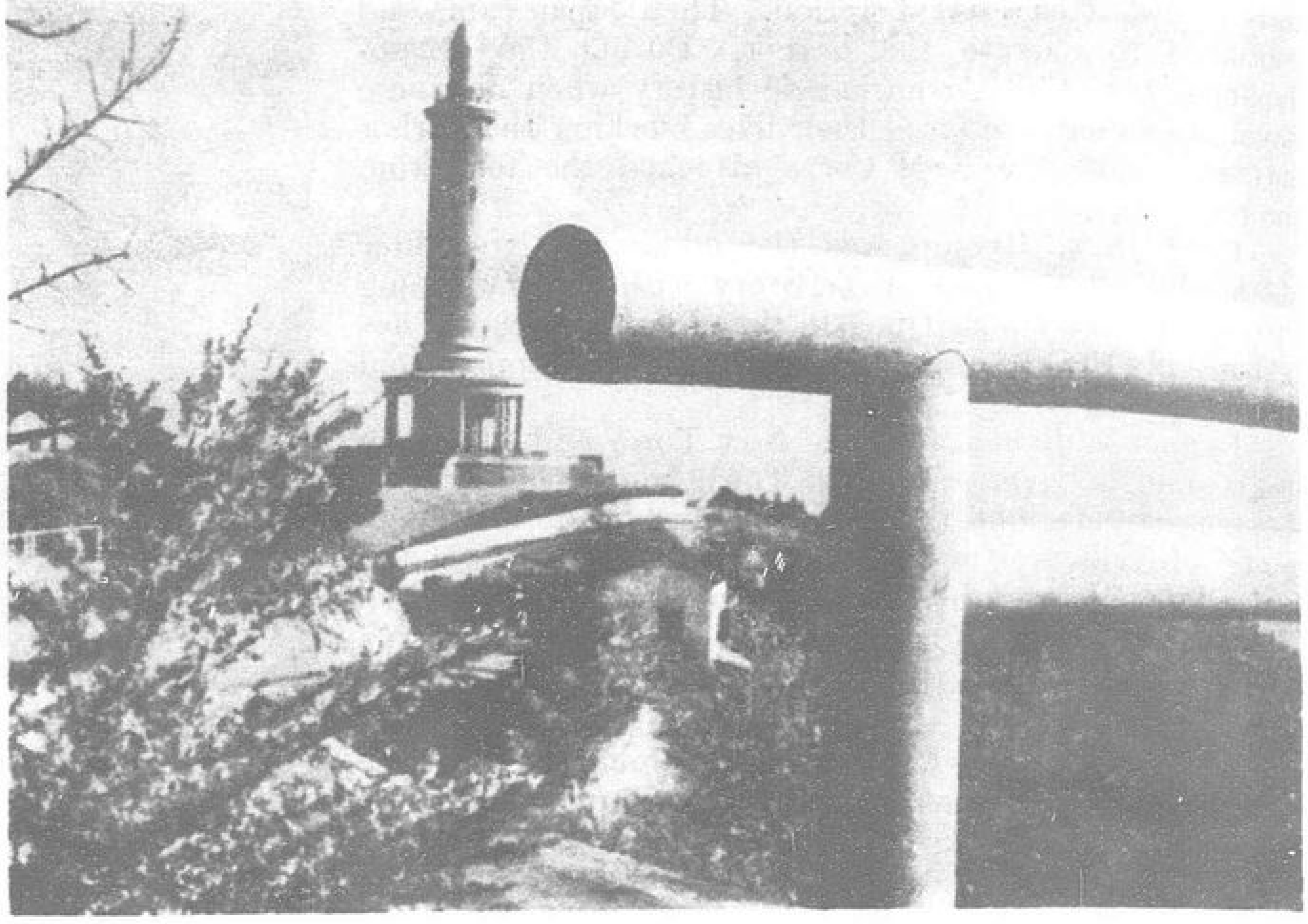
Tenth Room:—The relics of the Han period mural paintings and tombs, copies of the mural paintings and models of the tombs, found at Yingchengtzu, Kwantung Leased Territory. These are believed to be of early part of the Later Han period or about 2,000 years ago.

Eleventh Room:—Copper wares, mirrors, jewels, coins, mural paintings and others of Chou, Han, Tang and Sung periods, found in Manchuria, China and Central Asia.

Twelfth to Sixteenth Rooms:—Exhibits showing the customs and habits of China, Manchuria and Mongolia.

Seventeenth Room:—Relics found in Hsinchiang Province, China.

Nineteenth Room:—About ten mummies of the Kaochang people in the Tang period (6-7th century), excavated in the neighborhood of Tulufan, Hsinchiang Province. These are different from Egyptain mummies which are made by artificial means. Because of the dry soil, the buried bodies were preserved.

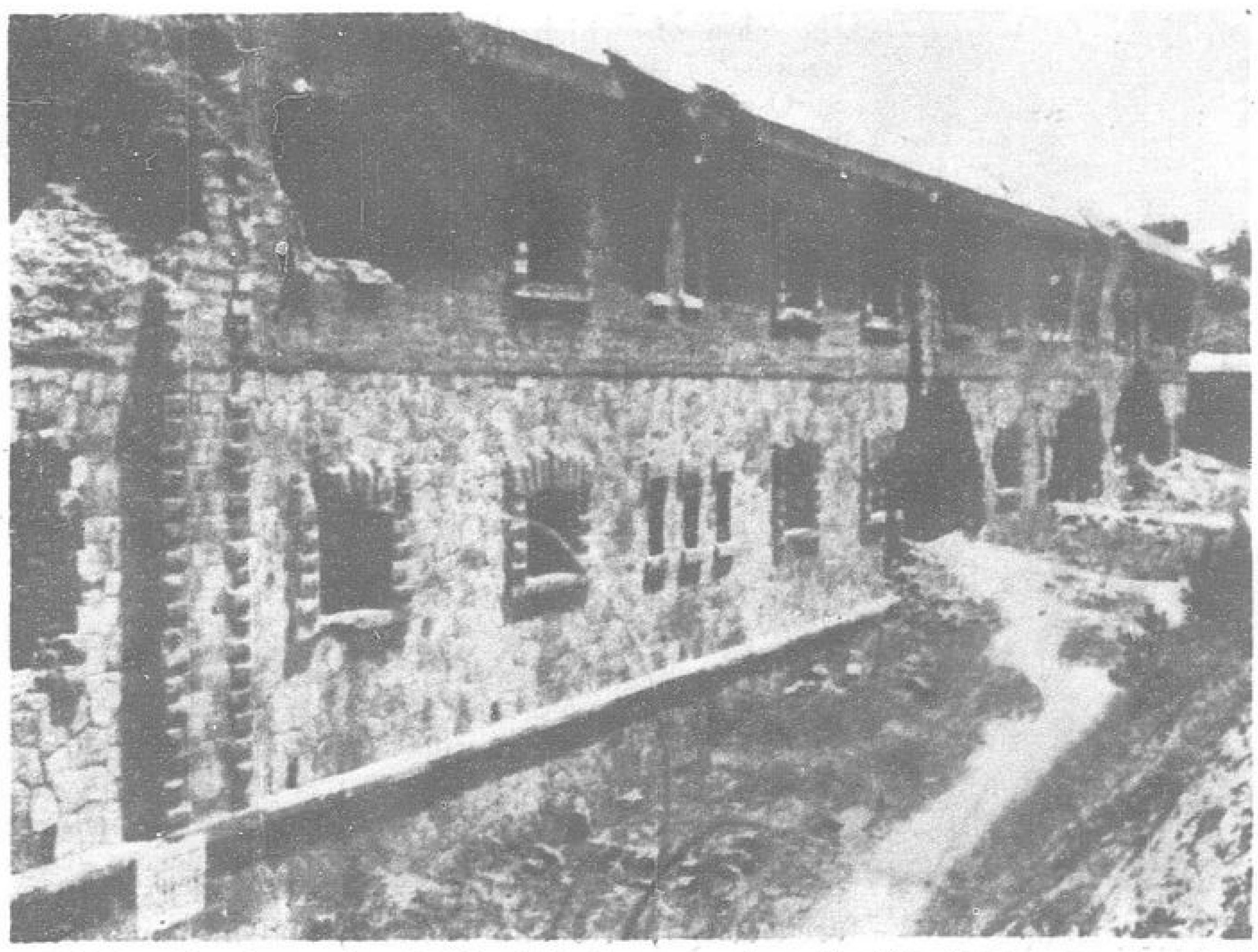


Grand memorial tower at Hakugyokusan or Monument hill at Ryojun

Coming to Nakamura-cho, after leaving the Museum, one will see the monument raised in commemoration of the triumphant entry to Port Arthur. On January 13, 1905, General Nogi in command of the Third Corps held here the ceremony of the triumphant entry into Port Arthur, and reviewed his troops. Going further westward the Ryojun Technical University is reached.

Among the battle-fields behind the New Town is the Ta-antzushan Fort. As no fighting took place here, it is still preserved in perfect condition. As a permanent fort it is magnificent, made on a grand scale and having long entrenchments. Also the Hsiaoantzushan Fort is a permanent fort kept in its original condition. The Itzushan Fort is another permanent fort preserved intact.

Proceeding further westward after passing through the New Town, one comes to the 203 Meter Hill. The Hill became most famous in the siege of Port Arthur. On the slope were built three tiers of entrenchments and two rows of barbed wires, and three cannons and three machine-guns were installed. The Japanese forces under the command of Lieutenant-General Matsumura continued a fierce man-to-man fight from September to December 5 on which day the Fort finally fell. The Japanese occupied it five times, and five times, the Russians recovered it. In the third general attack the Japanese casualities numbered 7,578 and the Russian 6,739. Near 203 Meter Hill there are also the forts of Akasakayama, Namakoyama and 131 Meter Hill.



Old Russian barracks at Higashikeikanzan where the North Fort was located

Going northward from Ryojun Station along the Lungho river about one mile and a half, one will come to the village of Sanlichiao. Here is a cemetery of Russian soldiers who died in the war, and a grand monument. Further at a point about three miles from the station is Shuishih-ying, where the Ching Dynasty established naval headquarters in 1715. Upon the fall of Port Arthur, the negotiations for surrender were held here on January 2, 1905, and then on January 5, General Nogi and General Stoessel held their historic conference. At that time the houses at Shuishih-ying were all destroyed by Russian guns and there was left only this one house where the famous meeting was held. The house is divided into three rooms, and at the time of the Nogi-Stoessel conference, the room east of the entrance was used by the Russian delegates, the west room for the conference, and the small room in the south-east end for the Japanese delegates. In the yard of the house now stand a monument and a jujube tree to which General Stoessel tied his horse which he later presented to General Nogi.

The siege of Port Arthur is famous in history, having continued from the beginning of the war to its middle stage. The daring attempts of blockading the harbor entrance by the Japanese Navy and the stories told about General Nogi have greatly impressed the world. To relate the naval activity in attacking Port Arthur, the first attack was made on February 8 and 9, 1904 ; the second on February 14 ; the third attack and the first blockade by the *Tientsin Maru* and four other ships on February 24 and 25 ; the fourth on March 10 ; the fifth on March 22 ; the sixth attack and the second blockade by the *Chiyo Maru* and three other steamers on March 27 ; the seventh on April 13 ; the eighth on April 14 ; the third blackade by the *Sakura Maru* and seven other ships on May 5 ; the naval fight outside the harbor entrance on June 23 ; the great naval battle of the Yellow Sea on August 10 ; the torpedo boat attack and the extermination of the Russian fleet at Port Arthur on December 14 and 15. The outstanding Corps activities were the opening of the siege war by the Third Army on June 6, 1904 ; the first general attack, August 19 to 29 ; the occupation of Panlungshan on August 22 ; the occupation of the Klopatkin Fort, Takasakiyama, Namakoyama and Shuishih-ying on September 20 ; the second general attack, August 26 to 31 ; the occupation of Ichinoe Fort on August 31 ; the third general attack, November 26 to December 6 ; the occupation of East Chikuanshan North Fort on December 18 ; the occupation of Erhlungshan Fort on December 29, the occupation of Sungshushan on December 31 ; the occupation of Bodai ; and the arrival of the Russian messenger for surrender on January 1, 1905 ; the blowing-up of East Chikuanshan Fort and the occupation of Yoshinaga Fort on January 21 ; and the meeting at Shuishih-ying on January 5.

Since the establishment of Manchoukuo and the outbreak of the China incident, Dairen has undergone a considerable change in various different senses, both in outward appearance and in substance. To conform with the autarchy of Manchoukuo itself, the Kanseishi factory zone came into existence as a seaside industrial district. Furthermore, under the present condition of the autarchy of the three nations of Japan, Manchoukuo and China, Dairen has come to be closely related to Tsingtao, Tientsin, Shanghai and other China coast ports, and its relation with Japanese ports has also been greatly strengthened. Then Dairen as a commercial and industrial city has greatly expanded its efficiency and scope of activity. Further with the removal to the city of the Kwantung Provincial Government Office, Dairen became the administrative center of the district. Thus not only the population rapidly increased but also the economic and communications relations with the nearby villages have been made very intimate. In 1924 and 1928, Dairen included many surrounding villages within its municipal area, and in 1930 a vast city planning scheme for a population of one millionin future was established. According to this plan, the city area is to include 11 outside villages and to measure 41,695 hectares, within a radius of 16 kilometers with Tokiwabashi as its center.

Ryojun has now become an extremely negative city. Since the Kwantung Provincial Government Office, central organ of administration of the Kwantung Leased Territory that had long been situated in Ryojun, was moved to Dairen, the city has lost much of its vigor. Yet the district is scenically favored and also is sacred as the site of the old battle-field. Thus it has been decided to build here the Kwantung Shrine as the spiritual bond between the Japanese residents in Manchuria and the home country, as the Chosen Shrine at Keijo and the Taiwan Shrine at Taihoku are to those in Chosen and Taiwan. In this way, Ryojun has retreated from the first line of activity to become an educational and sightseeing center, but the city will forever possess its own value and position.

World's Richest Antimony Mines

CONTRIBUTING about 70 per cent of the world's total production of antimony, China has been and is still the world's most important producer of this valuable metal. Approximately 70 to 80 per cent of the antimony reserves in China are in Hsikuangshan in Singhua district, Hunan. Hence Hsikuangshan is the richest antimony center in the world.

In China, the production of antimony was at its peak during the years of the Great War in Europe. Exports at that time reached more than 30,000 tons a year. This boom of the antimony business in wartime is due to the fact that the metal is used in munitions making. Since the 1918 Armistice, the production had dropped tremendously. *In recent years there have been some rise-and-fall* in the mining of antimony.

At Hsikuangshan, ancient methods of mining are still being used to-day. The smelting process for antimony as practised in China is a combination of old methods and some scientific arrangement. In the coke-lined furnaces, antimony ores are laid before another layer of coke which is spread on the top. Oxidization of the ores then follows. By pumping cold air into the furnaces, the oxidized gaseous antimony, together with the smoke from the coke, is forced into a coiled metal tube. Because of their relative density, the smoke which floats on top escapes from the chimneys while the heavier " antimony gas " is passed into a cooler, in which it forms an ashy substance. Two days of intensive heating are required for the second stage of smelting at the end of which antimony will be in molten, liquid form. The liquid metal is then cast into molds and bars of antimony are formed.

According to the miners at Hsikuangshan, this old method of smelting excels the modern smelting machine. Machines were used for a short time at Hsikuangshan but they were soon dropped because of a decrease in the output. By using the old method, it is said that sometimes 99 per cent of the metal can be extracted.

In order to exercise better control over the antimony trade, the Chinese government has established, as in the case of tungsten, a special bureau in Hunan to take charge of the production. The object is to raise the quality of the product, and to stabilize supply and demand so that the mines shall operate profitably without suffering from over-production. Present monthly production of antimony varies from 650 to 850 tons. An antimony traders' guild has been organized by those engaged in this industry, and miners also have their own union.

Lately a hospital and three schools for the laborers as well as two schools for the children of the workers have been formed for the benefit of the miners in the Hsikuangshan district.

Gold and Its Place in Japanese History

(Continued from page 433)

kajima near Nagano, was also possessed of excellent gold mines in the provinces of Kai and Suruga (present Shizuoka Prefecture). The famous Sawamura Gold Mine in the Kanagawa district was in the possession of Toshiiye Maede, lord of Kaga. By developing the Tada Gold Mine near Osaka, Hideyoshi Toyotomi, while young, could obtain ample war expenditures and become the " ever-victorious " warrior, who after each victorious battle added a pure gold gourd to his ensign. These are the few examples to show that as in other countries, even in the age of battles, only the warrior excelling the others in valor and in the possession of gold could attain supremacy in this country.

The discovery of the first gold mine on the Sado Island, the Tsuruko Gold Mine, which flourished before the Aikawa Mine in the same island was discovered. One day, while out sailing off the coast of the Sado Island about sunset, a merchant of Niigata happened to be attracted by a mysterious light shining from the island. He lost no time in landing to locate the source of the mystery. His curiosity was unexpectedly rewarded by the discovery of a rich alluvial gold deposit. This is said to be the origin of the famous Tsuruko Gold Mine, which won great fame for the island as a gold-mining center. The output of the gold vein at Aikawa is well known.

About the origin of the alluvial field at Nanzan, in Chosen, a farmer is said to have discovered it. While cutting rice-plants in the paddy field, his attention was arrested by a glittering object which proved to be a gold nugget. A rich placer deposit easily was struck at the shallow depth of one meter.

Japan's Position in the World's Copper Industry

(American Chamber of Commerce Journal, Manila)

The industrialization of Japan has changed her position radically in the copper industry during the last twenty years. Always an important producer of copper metal from the mines within her borders, Japan formerly was a considerable exporter of copper metal to the world's markets. With increasing demands from her own consuming industries for copper, the position of Japan was reversed, and the empire has become an importer of copper in large tonnages to supplement its own domestic production.

Exact figures on copper production in Japan to-day are unknown, as official publication of figures has been prohibited since July 31, 1937. In 1929 producing was 75,469 tons of copper, and in 1936, the last year for which official figures are available, it was 81,350. Trade authorities unofficially estimate the production in 1939 at 86,000 tons. Thus it appears that the limit of output within the empire may be set at that figure, as undoubtedly every effort has been made to stimulate domestic production in order to avoid employing foreign credits in the present period of financial stringency.

Lepanto Consolidated, the leading Philippine copoer producer

With respect to copper consumption, however, Japan's requirements have mounted at a dizzy rate. As late as the first World War, Japan exported 62,600 metric tons of copper metal from a production of 113,300 tons, which would indicate a domestic consumption of only 50,700 tons in 1916. In recent years it is admitted by Japanese authorities that Japan is obliged to import about half of her copper requirements from abroad, chiefly from the United States to meet its own domestic demand. This appears to be an understatement of fact. According to Brandeis Goldschmidt & Company, Ltd., a leading trade authority, Japan probably consumed 240,000 metric tons of copper in 1938 as compared with 190,000 tons in 1937 and 125,000 tons in 1936. Relying on these figures, it would appear that recently Japan has been obliged to import about 150,000 tons of copper annually. The United States alone exported 99,000 metric tons of refined copper to Japan in 1938, thereby making that country by far the largest buyer of American copper. Japan also bought 13,800 metric tons of copper from Canada in that year. According to a recent official statement, during the first eight months of this year, the United States exported $14,662,000 worth of refined copper to Japan. According to trade reports, Japan at present is the most important outlet for low-grade copper ores in Chile, and when the European market for Chilean copper virtually collapsed with the German occupation of France, Japan became a leading market for Chilean copper.

There are six leading Japanese copper mines, all of which are owned and operated by wealthy business magnates. These are Hitachi Mines, represented by Nippon Sangyo, Ashio Mines owned by Furukawa, Besshi Mines by Sumitomo, Kosaka by Fujita, and Osarizawa and Ikuno by Mitsubishi.

It does not seem possible that the Japanese apparent consumption of 240,000 tons in 1938 could represent actual use in industry, even after making due allowance for munitions demand. It is probable that a considerable tonnage went into inventories, as a sort of insurance against the day when embargos might be laid by other nations against further copper exports to Japan. If 240,000 tons of copper were actually consumed by Japanese industry, it would be equal to more than half the estimated consumption of new refined copper withdrawn on domestic account in the United States in 1938, according to Bureau of Mines figures.

The Philippines have a very real stake in the Japanese copper industry. That country offers the easiest and most available market for copper ores and concentrates from the Commonwealth. It offers the only market for low grade ores that cannot stand the cost of ocean shipment to smelters in America. High grade ores and concentrates can conceivably be sent to the United States, but ores containing five-ten per cent copper must look for Japanese buyers on present copper prices.

According to records of the Philippine Bureau of Customs, in 1939 there were shipped from Philippine mines a total of 12,242,980 lb. of copper as concentrates, and 15,637,880 kilos of copper ore. If the latter is converted into pounds of copper, assuming about 12 per cent copper average, it would be equivalent to 4,128,400 lb. This would give an apparent total of 16,371,000 pounds, or about 8,185 short tons. According to records of the Lepanto and Hixbar companies, the two principal Philippine copper producers, their shipments were 7,282,000 pounds from Lepanto and 6,181,000 pounds from Hixbar, or 13,463,000 pounds total. All of this ore went to Japan. The balance of some 3,000,000 pounds may be included in flotation concentrate, matte, etc., that were sent to the United States for smelting.

The total of some 6,500-7,000 tons of copper that Japan acquires from the Philippines is but a small percentage of her total imports, but it is the most accessible ore to Japanese smelters, and no doubt is keenly desired. The contract given to copper miners by Japanese buyers is based on the so-called Granby contract, given to the famous British Columbia copper producer, and contains several points that copper men have found advantageous for them.

New Railway

On November 15, the recently constructed Shihmen (Shihchiachuang)-Tehchow railway was opened with a certain amount of ceremony in the presence of high Japanese military and civil persons. The railway, though less than 150 miles, is none the less of very great importance for it provides Shansi with its shortest access to the sea.